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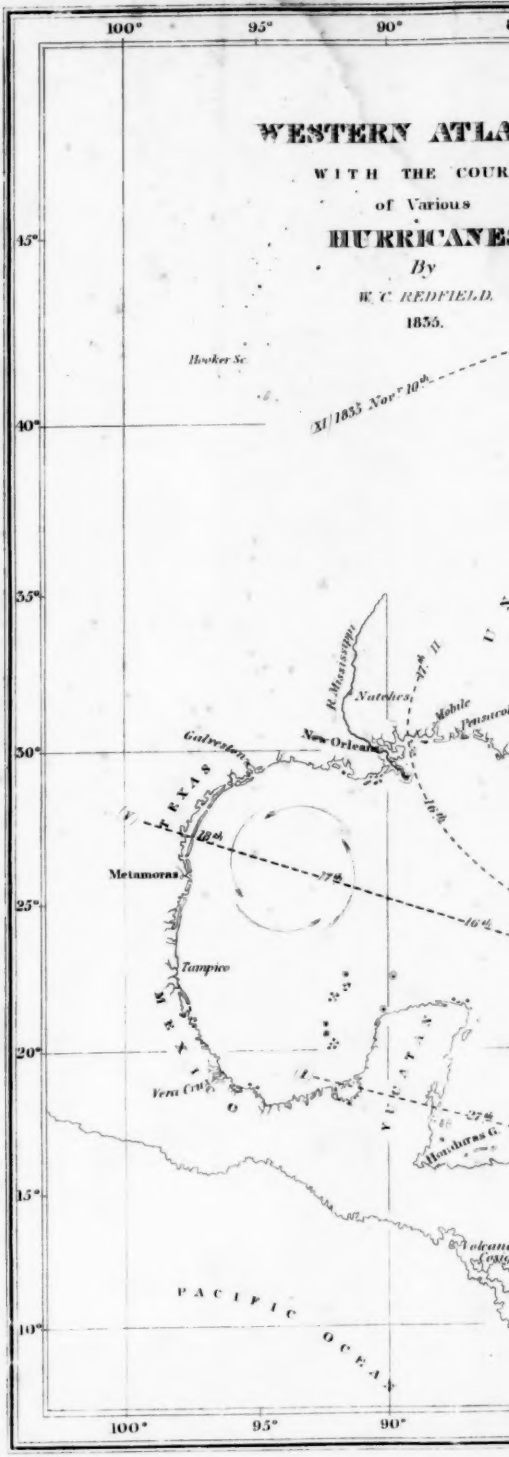
ON THE GALES AND HURRICANES OF THE WESTERN ATLANTIC.*

By W. C. Redfield, Esq. of New-York.

As an accurate knowledge of the dangers to which the navigator is liable, is of the first importance to the nautical profession, I venture to point out an error, relating to the storms of the Atlantic, which has found its way into Purdy's Memoir of the Atlantic Ocean, and has also been copied from that useful manual, into the nautical books of other countries.

The error alluded to, is contained in the following paragraph:—"In the year 1782, at the time the Ville de Paris, Centaur, Ramilies, and several other ships of war, either foundered, or were rendered unserviceable, on or near the banks, together with a whole fleet of West Indiamen, excepting five or six, they were all lying-to, with a hurricane from west; the wind shifted in an instant to east, and blew equally heavy, and every ship lying-to, under a square course, foundered." *Memoir of the Atlantic 7th edition, page* 96.

* These remarks, and the chart which they are designed to illustrate, were originally prepared for the London Nautical Magazine, but the importance of the subject in its relation to our marine interests, as well as to the cause of science, has induced the author to revise and enlarge the same for the pages of the Naval Magazine.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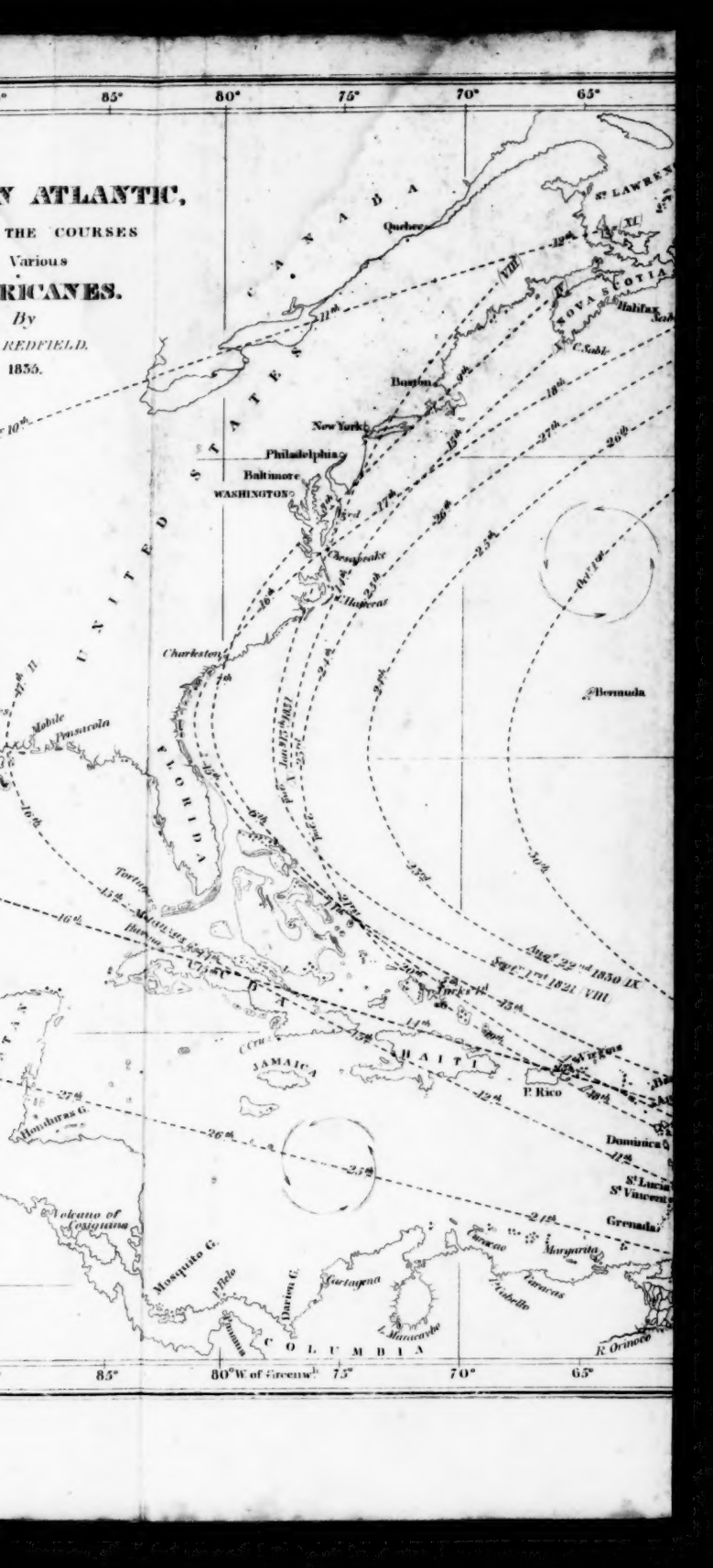
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Sept. 1st 1821 VIII
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In the examination which I have been led to make of the storms of the Western Atlantic, I have found them to pursue a generally uniform course, which is always north-westerly, in the tropical latitudes, and till they approach the latitude of 30° N. In the vicinity of this parallel, the storms turn to the northward, and their course then becomes north-easterly, on a track which appears to incline gradually to the east, as they sweep over the higher latitudes of the Atlantic. The course thus pursued, is entirely independent of the direction of wind which the storm may exhibit at the different points over which it passes; the wind in all such storms, being found to blow after the manner of a whirl-wind, around a common centre or vortex, during their entire progress, in a circuit which is commensurate with the lateral extent of the storm; and in a determinate direction or course of rotation, which is from right to left, (that is, in the direction from west to south,) horizontally.

From this uniform course and regular rotative action, result certain regular phases or characteristic changes, which are peculiar to the opposite margins or longitudinal sections of the track of each and all of these storms.*

At an early period of the inquiry, I met with the statement above quoted from the Atlantic Memoir, which, by the direction and change of wind therein mentioned, seemed to indicate that this region of the Atlantic had been visited at least by one storm of a different character. Such, however, was the remarkable uniformity presented to my view in the phenomena of the storms which were investigated, that I was led, at length, to suspect some error in the above statement, and on further inquiry, I soon found my doubts fully justified. I have now before me several printed authorities of that period, from which it appears that the first part of the hurricane in question, was from *E. S. E.* and that it shifted suddenly to *N. N. W.*†

* See American Coast Pilot, 12th edition, page 626—629; or the American Journal of Science and Arts, vol. xxv. pp. 114—121.

† *Extract from the Journal of an Officer on board the Ramilies.*

"September 16th, 1782. At noon, lat. 42° 15′ lon. 48° 55′, wind at E S. E., blowing fresh; 1 P. M. gale increased, hazy weather; at 3

It appears, therefore, that instead of blowing as described in the Memoir, this gale exhibited the usual characteristics of the Atlantic hurricanes.

If the movements of the atmosphere in these storms were of the vague and erratic character which has usually been assigned to them, the above correction would be of little importance. But, notwithstanding the supposed, and even proverbial uncertainty of the winds, navigators may be assured, that they will never, in the temperate latitudes of the Atlantic, encounter a gale which shall blow violently from the west and then shift suddenly to the east. This cannot happen until storms shall be found in this region, pursuing a retrograde course, or else spinning from left to right, instead of from right to left as they appear always to have done; or, in other words, till a new system of terrestrial physics shall have been established by the Great Author of nature.

The interest of this subject to navigators, and the neglect into which this branch of philosophic inquiry has been suffered to fall, will be a sufficient apology for some additional remarks on these storms.

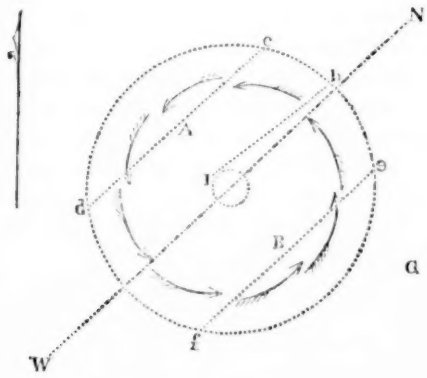
Those who adopt the views which I have maintained on

took in sails; at 6 P.M, gale very strong; brought-to under the mainsail. Midnight, three and a half feet water in the hold; gale E. S. E., exceeding strong; at 2 A. M. on the 17th, heavy rain and squally; at 3 A. M. the wind shifted; a violent squall from the N. N. W. without the smallest warning of a shift, took the mainsail aback; the mainmast, mizenmast, fore-topmast, and fore-yard, carried over the ship's side, and the tiller broke; water 4 feet 4 inches, and gaining on us; at daylight, 5 feet 8 inches, and gaining, ship laboring in great distress; at 5 A. M. one of the convoy foundered close to us; several near us dismasted, and signals of distress making from all; a prodigious swell of the sea, and heavy gale from N. W. at 10 A. M. hard gale from N. W. and prodigious swell; six feet water in the hold; afternoon, threw guns overboard," &c.

A letter from Captain Edwards, who commanded one of the convoy which foundered after the storm, states the early part of the gale to have been from S. E. by E. and the shift to have been ~~from~~ N. W. This trifling discrepancy confirms, rather than invalidates, the general fact, and may be accounted for as a slight inaccuracy on the part of the observers, or by supposing the position of Capt. Edward's ship to have been some distance to the southward and eastward of the Ramilies.

this subject, will, doubtless, be able to explain in a satisfactory manner, the facts which are contained in the following statement, found in the paragraph next preceding that which we have quoted from the Memoir; namely, "That while one vessel has been lying-to in a heavy gale of wind, another, not more than thirty leagues distant, has at the very same time been in another gale equally heavy, and lying-to with the wind in quite an opposite direction."

This statement is obviously to be understood as applicable to two vessels falling under the two opposite sides or portions of the same storm, where the wind in its regular circuit of rotation, must, of course, blow from the opposite quarters of the horizon. We will suppose one of the vessels to be at A and the other at B, in the annexed figure.



The storm in pursuing its course from W towards N, will strike the first mentioned vessel in the direction which is shown by the wind-arrows at the point *c*, which, if the position be in the temperate latitudes, north of 30°, will be from eastward. Now, it is obvious, that as the storm advances in its course north-eastward, this vessel, if nearly stationary, will intersect the body of the gale on the line *c* A *d*. As the storm advances, the wind must also veer to the northward, as shown by the arrows, being at N. E. when the vessel is brought under the point A, and near the close or de-

parture of the storm by its further progress eastward, the wind will have further veered to the direction shewn at *d*, which, with due allowance for the progressive motion of the storm, we will set down at N. N. W. The other vessel, as is equally obvious, will first take the wind from the southward, as shown at *e*, in which quarter it will blow, with no great variation, till, by the advance of the storm, the ship is brought under the point B. The barometer, which had previously been falling, will now commence rising, and the wind, veering more westerly, will, at the departure of the storm, be found in the direction shown at *f*, which, after the allowance already referred to, may be stated at W. N. W. Such, substantially, are the facts commonly reported by vessels which fall under the lateral portions of the Atlantic storms, and it is readily seen, that the opposite winds which are exhibited on the two different intersections of the storm, as above described, will very naturally be mistaken for two separate and distinct gales.

The phases of the wind in these gales, are, however, in all cases, modified more or less by the course or changing position of the vessel exposed to its action. For example; a ship on taking the gale, say at E. S. E. at the point *h*, on the figure, and lying-to with her head to the northward, may by that means be brought to intersect the storm on the line *h i*, and, at the point *i*, would suddenly be taken aback, with the wind, say at N. N. W., as in the case of the homeward-bound fleet in 1782, and the barometer, which reaches its lowest depression under the central portion of the storm, would about this period be found to have commenced rising with some degree of rapidity.

A further reference to the figure will show that a ship, which may be at the point G during the passage of the gale, would be exposed to a heavy swell from the southward and westward; but, being beyond the organized limits of the storm,* may remain entirely unaffected by the violence of

* The terms *organized* and *organization* are used by the writer in the sense in which he conceives them to be applicable to all eddies, whirlpools, and whirlwinds, and, generally, to all fluid and aerial vortices, while in a state of activity, and as involving, in the case of storms, the

the wind, which at the same time may be raging with destructive fury at the distance of a few leagues. The writer has knowledge of many such examples.

It has been suggested that "the larboard tack is the proper one to lie to on, as the wind will then be found to draw aft;" but this will frequently prove erroneous, as the wind may draw either way, on either tack, according to the position and course of the ship, in the storm, and the extent and rate of progress of the latter. In the case of the fleet which encountered the gale of 1782 it was probably the best course to carry sail to the northward at the very commencement of the gale, and as far and as long as possible. By this means the fleet might, perhaps, have been drawn as far northward as the point A on the figure, and the change of wind to the northward and westward would then have been rendered more gradual. The chief difficulty and danger, is when the direction of the wind at the first setting in of the gale, is found to be nearly at right angles with the known courses of the storms in the region where the gale is encountered, and it is then desirable to pursue such a course as to avoid, if possible, falling into the heart of the storm.

The following passage is found in the late edition of the Atlantic Memoir, at the head of the article on Hurricanes.

"A hurricane is a tempest of the most extraordinary violence, forming a kind of imperfect vortex, towards the centre of which the wind proceeds, successively and abruptly, from different points of the horizon. Of such phenomena, the most violent and destructive in the western hemisphere,

production of rain and all the other incidental phenomena which result from such organized action. The true character of these rotative movements, does not appear to have been closely studied by men of science, and however necessary or desirable a more correct knowledge of these movements may be, in order to a just apprehension of the subject before us, still, a discussion of their specific character, and of their agency in the production of the most important atmospheric phenomena, even if the ability were possessed, would be foreign to our present object. It is believed, however, that a proper development of this subject would do much to illustrate, in a clear and satisfactory manner, the formation and production of storm-clouds and rain, and especially of summer hail, as well as all violent electric phenomena.

are known to originate in or near the West Indies; and they commonly proceed, in a cycloidal line, from their point of origin, to the W. N. W., N. W. and N.; or if limited to the West Indian sea, from E. S. E. to W. N. W. *as well as from W. N. W. to E. S. E.*"—*Memoir, page* 97, *7th edition.*

As most of this paragraph was probably intended to agree with the facts which I had formerly given in relation to these hurricanes, it will only be necessary to notice the closing statement, quoted in italics, in connection with another passage which introduces the abstract, that is given in the Memoir, of my earliest attempt to elucidate the character and course of these tempests, and particularly those of 1821 and 1830.

"With these hurricanes (says the Memoir) might have been included the ever-memorable one of the year 1780; the latter, it appears, commenced near the west end of Cuba. On the 3rd of October it passed over the western part of Jamaica, and reduced Savanna la Mar to a state of desolation; it then in its gyrations passed along the coasts of Hayti, or St. Domingo, and Porto Rico, and it ended at Barbadoes, on the 10th of the same month."—*Memoir of the Atlantic, 7th edition, page* 101.

It must be evident that if there be no error in the statements here quoted, the systematic and uniform movements which I have considered as pertaining to at least all hurricanes which visit the western portions of the Atlantic, are liable to some decided exceptions, and it is important, therefore, that the facts of the case should be ascertained. I am confident, however, that on a full and careful inquiry, we shall find that nature has not, in this case, been regardless of her own fixed laws, and accustomed modes of action.

From such evidence as I have in my possession, it appears, that the first hurricane of October 1780, passed over the western part of Jamaica on the 3d of that month, and that the storm commenced a few hours *earlier* at Black River and Montego Bay, than at Savanna la Mar, which is near the west end of the island; and also, that on the 4th, at half-past 5 A. M. H. M. S. Phœnix was wrecked on the island of Cuba, near Cape Cruz, a little before the close of the gale at

that point, *but several hours after its termination at Jamaica.* There are no accounts from which I can infer either the presence or absence of the storm on the more usual course down the Caribbean Sea, into the gulf of Mexico, but if, following the indications already before us, we suppose the storm to have commenced its *detour* to the northward, and which accords well with the general course of a storm of a corresponding date in the year 1830, on a more eastern meridian, we shall then recognize it as the hurricane which was encountered on the 5th of October, in the gulf of Florida, and northward of the Bahama Islands, in which many vessels were wrecked, and a squadron of H. M. Ships was entirely disabled. This storm appears, also, to have been of limited extent and duration, as compared with that which visited Barbadoes on the 10th, and I can find no evidence of its having pursued a retrograde or eastwardly course, while in the tropical latitudes.

The violent and extensive hurricane which desolated Barbadoes on the 10th of the same month, appears to have commenced at St. Lucia several hours *later* than at Barbadoes, and I also find that it did not take effect at the other neighboring islands till the 11th, which is sufficient proof that this storm could not have been the same which ravaged the western parishes of Jamaica on the 3d of the month. In its lateral extent it covered at one and the same time the entire distance between the islands of Antigua and Tobago, and it appears to have pursued the usual course or route, towards the north-west. A letter from Jamaica mentions that they had a small share of this hurricane at that island on the 12th, which is in due course of time, and accords with the extent and previous position of the gale. It appears, in its widespread desolations, to have dispersed a Spanish fleet off Havana on the 16th, and to have visited, with its opposite margin, the island of Bermuda, on the 18th of the same month. I have also two accounts from vessels which encountered this storm at sea on the 17th, which agree with the foregoing.

The supposed errors in the statements we have last quoted from the Memoir, seem to have arisen from mistaking two hurricanes of different dates, which passed in a

north-westerly course, for one and the same storm passing eastward; or, possibly, from conceiving the direction of the wind, from a western quarter, at some of the islands, during the first part of the storm of October 10th and 11th, as directly indicating the route of the gale; a very natural conclusion, and one that is, perhaps, identified with all our preconceived associations on this subject. It is by this instinctive association that most writers appear to be governed, in their accounts of violent storms, but, than which, in its application to the point before us, nothing can be more fallacious and unfounded, as the history in detail of all such storms will certainly show. So strong, indeed, is the influence of our established modes of thinking on this subject, that it seems to be difficult, even for those who admit the rotative character of these hurricanes, to understand correctly the true bearing and relations of the different phases of the wind, which are presented at two or more points or places visited by the same storm, unless the subject has been thoroughly and carefully studied. Speculative opinions, also, upon the course of a storm, are, usually, if not always, founded upon the erroneous notion of a rectilinear course in the wind. In the accounts received of the hurricane at Barbadoes on the 3d of September 1835, which raged for a few hours from E. N. E. fears were expressed for the safety of the islands to the northward; but subsequent intelligence from Guadaloupe and Martinico, shewed that the gale had not extended to these islands. Had the direction and phases of the wind been viewed in their true relations, it would have been perceived that the heart of the gale must have passed to the southward of Barbadoes; and, as a general rule in the West India latitudes, where the onset of the storm is found to be in the general direction of the trade-wind, or more eastward, the observer may consider himself as under the northern verge of the gale; but if the onset of the gale be from the north-westward, veering afterwards by west to the southern quarter, the heart of the storm will be found to have passed to the northward of the point of observation, the latter being under the southern margin of the gale.

Among other proofs of the circuitous action of violent winds, is the fact that the track of a vessel which runs directly before the gale, will, in many cases, be found to be strikingly curvilinear when traced on the chart; In other words, the veering of the wind, which so often occurs, when duly considered, is, in itself, a complete demonstration of the fact in question. Many readers will recollect the case of a vessel driven from Falmouth in the great hurricane of 1703, by a circuitous course to the Isle of Wight, with only a cabin boy on board, which course clearly indicates the phases of one marginal section of that memorable storm. It can but seldom happen, however, that the track of a vessel which scuds through a gale, will fully develope the entire circuit of the wind, the combination of circumstances necessary to this result being but rarely encountered. Still, I have obtained notice of a few such cases, and a respectable ship-master not long since informed me that he once scudded for twenty-four hours under a typhoon in the China Sea, and on its departure, found himself nearly in the position where he first took the gale.

In order to illustrate more fully the foregoing remarks, I annex a chart of the Western Atlantic, on which is delineated the route of several hurricanes and storms, as derived from numerous accounts which are in my possession, by which their progress is specifically identified from day to day, during that part of their route which appears on the chart.

The route designated as No. 1. is that of the hurricane which visited the islands of Trinidad, Tobago, and Grenada, on the 23d of June, 1831. Pursuing its course through the Caribbean sea, it was subsequently encountered by H. M. Schooner Minx, and other vessels, and its swell was thrown with great force upon the south-eastern shores of Jamaica on the 25th, while passing that island, where the wind, at this time, was light from the northward. After sweeping through the Carribbean Sea, this hurricane entered upon the coast of Yucatan, on the night of June 27th, having moved over the entire route from Trinidad to the western shore of the Bay of Honduras in a little more than one hundred hours, a distance of about seventeen hundred nautical miles.

which is equal to nearly seventeen miles an hour. I have no account of this storm after it crossed the peninsula of Yucatan, and it is probable that it did not again act with violence upon the ocean level. Its course or track to Honduras was N. 74° west.

Track, No. II, is that of the memorable hurricane which desolated Barbadoes on the night of August 10th, 1831, and which passed Porto-Rico on the 12th, Aux-Cayes, and St. Jago de Cuba on the 13th, Matanzas on the 14th, was encountered off the Tortugas on the 15th; in the gulf of Mexico on the 16th, and was at Mobile, Pensacola, and New Orleans, on the 17th; a distance of 2,000 nautical miles in about 150 hours, equal to something more than 13 1-2 miles an hour.* Its course, until it crossed the tropic of Cancer, was N. 64° west, or W. N. W. nearly. In pursuing its northern course, after leaving the ocean level, it must have encountered the mountain region of the Alleganies, and was perhaps disorganized by the resistance opposed by these elevations. It appears, however, to have caused heavy rains in a large extent of country lying north-eastward of the gulf of Mexico.

Track, No. III, is that of the destructive hurricane which swept over the Windward Islands on the 17th of August, 1827; visited St. Martin's and St. Thomas on the 18th; passed the north-east coast of Hayti on the 19th; Turks Island on the 20th; the Bahamas on the 21st and 22d; was encountered off the coast of Florida and South Carolina on 23d and 24th; off Cape Hatteras on the 25th; off the Delaware on the 26th; off Nantucket on the 27th; and off Sable Island, and the Porpoise Bank, on the 28th. Its ascertained course and progress is nearly 3,000 miles,† in about eleven days; or, at the average rate of about eleven miles an hour. The direction of its route before crossing the tropic, may be set down at N. 61° west, and in lat. 40° while moving eastward, at N. 58° E.

Track, No. IV., represents the route of the hurricane

* Mr. Purdy states that this gale was felt at Natches, 300 miles up the Mississippi.

† All the distances are expressed in nautical miles.

which ravaged the islands of Antigua, Nevis, and St. Kitt's, on the afternoon and night of August 12th, 1835; St. Thomas, St. Croix, and Porto-Rico on the 13th; Hayti and Turks' Island on the 14th; the vicinity of Matanzas and Havana on the 15th; was encountered off the Tortugas in the gulf of Mexico on the 16th; in lat. 27° 21, lon. 94°, and other points on the 17th and 18th; and also at Metamora on the coast of Mexico (lat. 26° 04) on the 18th, where it was most violent during the succeeding night.* This storm is remarkable, as moving more directly, and farther to the west, than is usual for storms which pass near the West India Islands, it having reached the shores of Mexico before commencing its sweep to the northward. Its course, so far as known, is N. 73° west. Its progress, more than 2,200 miles in six days; which is nearly equal to 15 1-2 miles per hour.

Track No. V., is that of the extensive hurricane of September, 1804. It swept over the Windward Islands on the 3d of that month; the Virgin Islands and Porto-Rico on the 4th; Turks' Island on the 5th; the Bahamas and gulf of Florida on the 6th; the coast of Georgia and the Carolinas on the 7th; the great bays of Chesapeake and Delaware, and the contiguous portions of Virginia, Maryland, and New Jersey, on the 8th; and the states of Massachusetts, New Hampshire and Maine on the 9th; being on the highlands of New Hampshire, a violent snow-storm. The destructive action of this storm was widely extended on both sides of the track indicated upon the chart, and the same fact pertains, in a greater or less degree, to the other storms herein mentioned.

* Since writing the above it is ascertained that this storm also passed over Galveston Bay, on the coast of Texas, where the hurricane blew with violence from the northeast, while at the mouth of the Mississippi and along the northern shores of the gulf, the gale was not felt. Such facts appear quite sufficient to overthrow the hypothesis of Franklin relating to northeast storms, and are equally fatal to the more common theories. At Galveston this storm, in passing over, veered by east to the southeast; the *rationale* of which may be made evident by drawing a line through the northern side of the figure on the chart, parallel to the track of the storm. A little further attention to the figure will also illustrate the general character of other *northers*, which are so common on the coast of Mexico during a considerable portion of the year

It appears to have passed from Martinico, and the other Windward Islands, to Boston in Massachusetts, by the usual curvilinear route, in about six days; a distance of more than 2,200 miles, at an average progress of about 15 1-2 miles per hour.

Track No. VI., is that of the memorable gale of August, 1830, which, passing close by the Windward Islands, visited St. Thomas' on the 12th; was near Turks' Island on the 13th; at the Bahamas on the 14th; on the gulf and coast of Florida on the 15th; along the coast of Georgia and the Carolinas on the 16th; off Virginia, Maryland, New Jersey, and New-York on the 17th; off George's Bank and Cape Sable on the 18th; and over the Porpoise and Newfoundland Banks on the 19th of the same month; having occupied about seven days in its ascertained course from near the Windward Islands, a distance of more than 3000 miles; the rate of its progress being equal to eighteen miles an hour.* If we suppose the actual velocity of the wind, in its rotary movement, to be five times greater than this rate of progress, which is not beyond the known velocity of such winds, it will be found equal, in this period, to a rectilinear course of 15,000 miles. The same remark applies, in substance, to all the storms which are passing under our review. What stronger evidence of the rotative action can be required, than is afforded by this single consideration?

Route, No. VII., is that of an extensive gale, or hurricane, which swept over the Western Atlantic in 1830, and which was encountered to the northward of the West India Islands on the 29th of September. It passed on a more eastern route than any which we have occasion to describe, to the vicinity of the grand Bank of Newfoundland, where it was found on the 2d of October, having caused great damage and destruction on its widely extended track, to the many vessels which fell on its way. Its course is quite analogous to that which we have considered as having been probably pursued by the hurricane of October 3d, 1780. The ascer-

* For a more extended notice of this storm, see American Journal of Science, vol. xx. pp. 34—38.

tained route may be estimated at 1800 miles, and the average progress of the storm at 25 miles an hour.

Route, No. VIII., is that of a much smaller, but extremely violent hurricane, which was encountered off Turks' Island on the 1st of September, 1821; to the northward of the Bahamas and near the lat. of 30° on the 2d; on the coast of the Carolinas early in the morning of the 3d; and from thence, in the course of that day, along the sea-coast to New-York and Long Island; and which, on the night following, continued its course across the states of Connecticut, Massachusetts, New-Hampshire, and Maine. I am not in possession of accounts by which its farther progress can be successfully traced.* The diameter of this storm appears not to have greatly exceeded 100 miles; its ascertained route, and progress is about 1800 miles, in sixty hours; equal to thirty miles an hour.

The last mentioned route may also be considered to be nearly the same as that of a similar, but less violent storm, which swept along the same portion of the coast of the United States on the 28th of April, 1835.

No. IX., represents the route of a violent and extensive hurricane, which was encountered to the northward of Turk's Island on the 22d of August, 1830; northward of the Bahamas on the 23d; and off the coast of the United States on the 24th, 25th, and 26th of the same month.

Much damage was done on the ocean by this storm; but it scarcely reached the American shores. Its duration off this coast, was about forty hours, and its progress appears to have been more tardy than that of some other storms.

No. X, represents the track of a violent hurricane and snow-storm, which swept along the American coast from the lat. of 30° N. on the 5th and 6th of December, 1830.

The last mentioned track also corresponds to that of another storm, of like character, which swept along the sea-coast on the 13th, 14th, and 15th of January, 1831. These violent winter storms exhibit nearly the same phases of

* The phenomena and progress of this storm have been more fully noticed in Silliman's Journal, vol. xx. pp 24—27.

wind and general characteristics, as those which appear in the summer and autumn.

Track, No. XI, represents a portion of the general route of the violent inland storm which swept over the lakes Erie and Ontario on the 11th of November, 1835. This storm was very extensive, spreading from the sea-coast of Virginia into the Canadas, to a limit, at present, unknown. The anterior portion of this gale was but moderately felt, and its access was noted, chiefly, by the direction of the wind, and the great fall of the barometer; the violence of the storm being cheifly exhibited by the posterior and colder portion of the gale, as is common with extensive overland storms. The regular progression of this storm in an easterly direction is clearly established, by facts, collected by the writer, from the borders of Lake Michigan to the Gulf of St. Lawrence and the sea-coasts of New-England and Nova Scotia.

I have thus given a summary description of the route of twelve storms, or hurricanes, which have visited the American coasts and seas, at various periods, and at different seasons of the year. The lines on the chart, which represent the routes, are but approximations to the centre of the track or course of the several storms; and the gales are to be considered as extending their rotative circuit from fifty to three hundred miles, or more, on each side of the delineations; the superficial extent of the storm being estimated both by actual information and by its duration at any point near the central portion of its route, as compared with its average rate of progress. The figure which appears upon the chart, on tracks No. I, IV, and VII, will serve in some degree to illustrate the course of the wind in the various portions of the superficies covered by the storm, and, also, to explain the changes in the direction of the wind which occur successively at various points, during the regular progress of the gale. The dimensions of the several storms appear also to have gradually expanded during their course.

Storms of this character do not often act with great violence on any considerable extent of interior country to which they may arrive. Even upon the coasts on which

they enter, such violence is not often experienced under the posterior limb of the gale which sweeps back from its circuit over the land, the usual woodlands and elevations being a sufficient protection. Often, indeed, the interior elevations afford such shelter as entirely to neutralize the effect of the wind at and near the surface, and the presence and passage of the hurricane is, in such cases, to be noted chiefly by the unusual depression, which the great whirling movement of the incumbent stratum of air produces in the mercury of the barometer, which thus indicates the presence or passage of the hurricane, in positions where the force of the wind is not felt at all, or only with a moderate degree of violence. The action of these storms appears, indeed, to be at first confined to the stratum or current of air moving next the earth's surface, and they seldom, while in this position, appear to exceed a mile or so in altitude; and the course of the next highest or overlaying stratum does not in these cases seem to be at all affected by the action of the storm below. During their progress, however, by the influence of high land and other causes, the storms often become transferred, in whole or in part, to the next higher stratum of current. Thus we sometimes see a stratum of clouds moving with the full velocity of a violent storm, while the stratum of surface wind is nearly at rest, or moves with its ordinary velocity; and thus also it happens that balloons, ascending under such circumstances, are carried forward with a velocity of from 60 to 100 miles an hour. The foregoing remarks are by no means hypothetical, but are the result of long continued observation and inquiry.

It will hardly escape notice that the track of most of these hurricanes, as presented on the chart, appears to form part of an elliptical or parabolic circuit, and this will be more obvious if we make correction, in each case, for the slight distortion of the apparent course in the higher latitudes, which is produced by the plane projection. We are also struck with the fact that the vertex of the curve is uniformly found on or near the 30th degree of latitude. In connection with this fact it may also be noted, that the latitude of 30° marks the external limit of the trade winds, on both sides of the equator; and

perhaps it may not prove irrelevant to notice, even further, that by the parallel of 30° the surface area, as well as the atmosphere, of each hemisphere, is equally divided; the area between this latitude and the equator being about equal to that of the entire surface between the same latitude and the pole. It is not intended, however, to make these facts the basis of any theoretical inductions on the present occasion.

It will, doubtless, appear desirable to know whether, if the full history of these or other storms could be obtained, the track, in any case, would result in the completion of an entire circuit, either in the proper basin of the North Atlantic, or on its continental borders; and if so, whether there be, or be not, any general uniformity in the length of the major axis of this elliptical circuit at different seasons of the year? If this inquiry cannot be satisfactorily solved, it is still important to learn the analogies or relations which the storm-tracks on the eastern borders of an oceanic basin, bear to those in its western portions, or in other regions. On the Asiatic coasts of the northern Pacific, unless I have greatly mistaken the evidence, the same system of storms is found to prevail as in the western Atlantic in the cases before us. On the western coast of North America it will appear, from the phases of the storms as described by Cook and other voyagers, that their usual course is in a southeasterly direction. The evidence, in the case last mentioned, though it may be satisfactory to those who are familiar with the mode of investigation, can hardly be estimated by general readers, and will not, therefore, be here insisted on. The journals of voyagers and other published records, when sufficiently examined and collated, are deemed to afford decisive evidence that a system of the same general character, prevails in the southern hemisphere, but exhibiting, for the most part, precisely counter movements. If there be any important exception, it will probably be found in the limits of those *counter movements of the regular trade winds* on both sides of the equator, which are known as the westerly monsoons;* but, even in these regions, it is questionable whether

* The author is willing to be held responsible for this implied definition of the general character of the monsoons, as he finds good reason

the course of violent storms be not uniformly the same as in other regions of corresponding latitude; but more facts of a decisive character are wanted before this point can be settled to the satisfaction of the writer.

The routes of many other storms and hurricanes might be traced on the chart, from materials now in hand, were it necessary; and they may, it is believed, be somewhere found in action, at all seasons, and on every day in the year, although their appearance is more frequent in some seasons, and even in some years, than in others. The hasty outline of their progress and development, now submitted, is, probably, quite sufficient to overthrow some of the most common hypotheses respecting their origin and times of appearance.

Perhaps it might be deemed proper to point out, on the present occasion, the catenation of natural causes by which the systematic organization and progress of these storms is produced and maintained; but I do not intend, Mr. Editor, to weary the patience of your readers with a more prolonged chapter on the natural history of hurricanes, nor to deprive the *savans* of their prerogative to dispose of our facts in such manner as may seem best to accord with their favorite theories. Besides, our business at this time is rather with the facts themselves, than with their relations in a correct system of meteorology. It may be remarked, however, that unless the writer has greatly mistaken the mass of evidence presented to his notice during the progress of his inquiries, these phenomena, as also the general winds in which they occur, are to be ascribed, mainly, to the mechanical gravitation of the atmospheric strata, as connected with the rota-

to consider these winds to be neither more nor less than a misplaced or counter deflection in the course of the regular trade winds, occasioned probably, by the contour and position of opposing coasts and elevations, and, especially, by the displacement of the inferior current of atmosphere which is necessarily produced by certain extensive elevations of the earth's surface. It is to fallacious or misapplied reasonings, founded on a certain known principal of expansion and every where adopted, that we probably owe the confusion and manifest uncertainty of our knowledge in regard to the true nature of the great atmospheric currents.

tive and orbital movements of the different parts of the earth's surface. But should any one, after an unbiassed and full consideration of the great facts which are now before us, and of their bearing as illustrative of the physics of the atmosphere, seriously ascribe them either to lunary, cometary, electric, or volcanic influence, or even to calorific agency in any just and proper sense--then the writer can only say, that he finds himself unable to explain these, and certain other phenomena of the atmosphere, upon such principles, and that he desires to concede all the honor of theorizing to those who may imagine that such relations can be established. It would promise better, however, to inquire whether we have not in these developments, a clue to the true system of atmospheric physics, a subject which has always been beset with difficulties, and to explain which we have, hitherto, obtained nothing better than plausible hypotheses.—In regard to the fall of the barometer, which attends these storms throughout their progress, its *rationale* is deemed to be so obvious as hardly to admit of question.

In conclusion, I will venture to hope that the facts and considerations now presented may prove, in some degree, useful to the nautical profession, and promotive, also, of the general interests of science. At the same time it is hoped, that in future notices and reports of violent storms, more attention will be given to specific dates and location, and also to the direction and changes of the wind, all which may be expressed in the most summary manner; and the facts, when once recorded, are for ever available, in tracing the progress and character of such storms. It seems desirable, also, that the general route and character of European storms should be investigated by those whose local position and means of information best qualify them for the task. The writer of this communication is but scantily furnished with materials for this object, and would gladly see the work accomplished by other and abler hands.

THE MERCHANT SERVICE.

NO. II.

By a Member of the Naval Lyceum.

HAVING, in a former article, briefly noticed the evils to which sailors are exposed, when passing the short intervals of their unprofitable lives in the great commercial cities to which their peculiar vocation directs them, I shall endeavor to point out such remedies as may remove, or at least lessen such abuses.

In the first place then, I would propose the formation, in New-York and every large seaport, of an association of ship-owners and masters, whose object should be to watch over the welfare of the seafaring class. Its members should contribute but a small annual fee, as the expenses of the institution should be chiefly derived, from the voluntary contributions of the merchants. To an executive committee might be confided the whole business of the society, aided by two agents appointed by the committee, in conjunction with the Board of Commerce, the interests of which association would be, essentially, subserved by such co-operation.

All applicants for appointments as masters, or mates, might address themselves to this committee for examination, as to their qualifications, and for aid in obtaining suitable employment. The committee might serve also, as a board of arbitrators, in cases not absolutely requiring judicial interference. To give character and pecuniary ability to the proposed corporation, the association should be permanently invested with corporate powers. All the merchants should enroll themselves as members; by thus concentrating the influence which their immense wealth and patronage would give them, they might effect any object, having for its end the moral and religious improvement of seamen, or the general advancement of the civil marine.

Connected with this association, and subject to its special direction and supervision, there should be established a school, devoted to the instruction of young seamen, and the

children of seafaring men. The cost of founding an institution of this character, would be as nothing, in comparison with the benefit that would result from it. It would, at once, relieve our large cities of thousands of vicious and vagrant boys, and convert them, in process of time, into useful citizens.

If ship-owners and masters were required, by law, to rear up to the sea a prescribed number of lads, a school and boarding establishment for their instruction and accomodation, when in port, would be highly desirable. An institution, restricted merely to the instruction of youths of this class, might be located in the city as most convenient; but, if in addition to the school, it should be determined to provide accommodation for boarding and lodging the pupils, some pleasant spot, on the south side of Staten Island, or upon the borders of Princes' Bay, near the Highlands, might be selected. From such delightful positions, the boys would enjoy an uninterrupted view of the ocean, with the fleets of sea-going vessels, steamers, and coasting craft passing, in panorama, before them: scenes alike calculated to instruct, and to keep alive their fondness for a profession, which, though claiming its inseparable toils and dangers, is not wholly devoid of attractions.

But, whatever location might be selected for the school, the expense of its management would be much the same, as masters would, of course, defray the charge of boarding their apprentices. The annual cost of supporting a school of sufficient magnitude would not much exceed the following estimate:

Salary of Principal Instructor - - - - -	$1,200
First Assistant - - - - - - -	700
Second - - - - - - -	600
Rent, Fuel, Books, Stationary, and contingent expenses - - - - - - - - - -	1,600
	$4,000

It is hardly necessary to enter, here, into a formal argument of the advantages of such an institution; they must be obvious to every one who has thought on the subject.

It may be said, that the free schools of this city offer all the requisite facilities, for the instruction of young sailors. This opinion can only be entertained by those unacquainted with the character and habits of seamen, and with the kind of instruction they need. Men who are to follow the sea should be educated exclusively for the profession; and in truth, we can see no reason why an institution, established upon this plan, should not be entitled, under a just construction of the revised statutes of the State of New-York, to a fair proportion of the school fund.

In the preceeding number of this publication, we have attempted to show, that there is no class of men whose mental and physical necessities have been so little regarded, as those of the seamen of this country. Philanthropists, of the present day, appear to evince less interest in the religious instruction and common comforts of the sailor, than of any other people, whether black, white, or red, on the face of the earth. Their sympathies and benefactions are too often sent abroad; and appear to be graduated in precise proportion to the distance to which their influence is meant to extend. They seem to have forgotten the old adage, that "charity begins at home," and that it has always been accounted a wise thing to set one's own house in order, before interfering with the concerns of others.

In making these remarks, we cheerfully except from the charge of indifference to the wants of sailors, the directors and patrons of the Seamen's Friend and Bethel Societies, and the dispensers of the magnificent and well applied bequest of the ever to be honored Randall; nor should we fail to mention the Sailor's Retreat, an establishment for the accommodation of sick and disabled seamen, founded and supported by the avails of a tax, enforced by the State, upon all seamen arriving at the port of New-York, and entirely distinct from the contribution of twenty cents per month, exacted by a law of Congress.

This is an excellent institution, and conducted as it is, in the most systematic manner by its active and intelligent superintendant, is daily increasing in extent and useful-

ness. Here the sick, or worn-out sailor may find a comfortable asylum, and receive from the officers of the establishment every kindness and attention.

On some other occasion, we may allude more particularly to this and the other institutions for seamen, located on Staten Island: the Sailors' Snug Harbor, the United States' Marine Hospital, as also the Naval Hospital at Brooklyn, and we are confident in being able to prove, the deep injustice that has been done to seamen, in compelling them by law, not only to provide themselves quarters and medical attendance, when overtaken by poverty and sickness, but to furnish money to be expended for other purposes, and, at the same time, requiring them to contribute, like others, to the general revenue of the country.

But the benefits derived, from the sources already mentioned, are very limited in their extent, and scarcely reach the young and thoughtless, who actually run riot in the lowest scenes of dissipation, until disease and decrepitude come upon them, ere they have passed two-thirds of the period alloted to man's natural life. It has always been a matter of speculation, what becomes of sailors, after they have reached the age of fifty. Up to this time of life they seem hale and hearty, but in a little while, they disappear as swallows in the autumn, no one knows whither. Some support themselves, for a time, in working at rigging, in making mats, straw hats, and other trifles. Many find their way into the alms houses and hospitals; others are scattered throughout the country seeking employment wherever they can find it; but, much the greater number lounge about their old haunts, near the wharves and shipping, until, borne down by drunkenness and want, they sink into a pauper's grave.

I remember to have seen, some years ago, at one of the Shaker establishments, a couple of old man-of-war's-men, who had shown more foresight, than is generally exercised by men of their cloth, by securing for themselves snug moorings, in so comfortable a port. One of them, quite an old man, had served through the Tripolitan war, under Preble, and was familiar with the names of Decatur, Somers, Wadsworth and Trippe; the other was of more recent date. The

elder, being too infirm, did not join in the religious dance of this extraordinary sect, but the younger was conspicuous for his active zeal, and figured away most vigorously, yet he could not, entirely, divest himself of the step and manner of the forecastle. Whether the writer's presence at the ceremony, for we had previously recognized each other, called up old associations, we cannot say; but he probably gave, on this occasion, more than his usual sailor character to the dance, and when the chanting of the singers became more quick and inspiring in its measure, he would throw new spirit into his movements, and perform that peculiar hitch-up-step called by sailors the double shuffle. Doubtless, the starched brothers and sisters of the order were sadly scandalized, by this seeming irreverence, but the old tar was excusable, he had forgotten, for a moment, the luxurious fare and undisturbed nights enjoyed as a member of the fraternity, and permitted his thoughts to wander back to forecastle scenes, in which, amid his joyous shipmates, he was wont to be foremost in the song and dance.

Now and then, we see a few grey-headed old fellows in our ships of war, and navy yards, retained by the sympathy and kindness of the officers; but their limbs have become stiffened; they can no longer move aloft, or work the guns as once they could; after a short interval even these are thrust aside, to make room for more youthful substitutes; and poor Jack, like an old and useless horse, is turned upon the world to starve, or gain, as well as he can, a precarious living for the remaining period of his wretched existence.

Such is the character of our legislation, that no provision is made for them. The country to whose prosperity they have contributed, so largely, cannot afford to support them, when they are no longer able to add to its revenue. The public charities are all absorbed, in providing for the wants and comforts of foreign paupers, fresh from the parish or prison-houses of their native districts; these sovereign voters of our blessed land, who, when once landed on our shores, and before they have cast off the prison or workhouse garb, with which they are furnished when sent abroad in search of food and raiment, and new scenes wherein to ex-

ercise their vagabondism, are, by dishonest connivance, admitted surreptitiously to the right of voting, to gain some paltry advantage, either for one party or the other.

How different is the conduct of England to her disabled seamen; she has her glorious Greenwich Hospital as a sure retreat for those helpless men; and every sailor or soldier who has served, faithfully, a certain number of years, is sustained and cherished for the remainder of his life. Even Russia, France, Holland, Denmark and Sweden, deem it a sacred obligation to provide for those who have devoted the best of their lives to the service of the state, their children also are educated at the public expense, and reared up to the profession of their fathers. In Russia, public schools for this purpose, under the most admirable organization, are scattered thoughout the empire.

In remarking upon the discipline and treatment of seamen afloat in merchant ships, and their provisions and clothing, we will endeavor to show that the interest and convenience of the owners, not less than the comfort of those in their employ, would be effectually benefited by the adoption of established regulations for the government of the officers and men; but in carrying into execution a plan of the kind, and in perfecting all the necessary detail the assent and co-operation of the merchants generally would be indispensable. Hence another argument in favor of an association such as we have ventured to recommend.

For want of such uniform rules, sailors are now subject to the caprice of whomsoever they may chance to sail with; in one ship they enjoy the advantages of a just and lenient discipline, with abundant and wholesome food, in another, ill-treated, over-worked, and half-starved, they become soured and disheartened, and rife for the commission of any crime. The laws and usages for the government of seamen in the merchant service are amply sufficient to enforce the necessary order and discipline, if judiciously administered. In most cases where sailors have mutinied against the authority of their officers, the causes which have induced them to the act may almost invariably be traced back to the improper conduct of those very officers, either in the exercise of vexatious

and unwarranted severity, or by relaxing the reins of discipline, so as to lose all control over the reckless spirits placed under their command.

It is true that American merchant ships are infinitely better commanded than those of any other nation, but it is equally undeniable that, in many of them, sailors suffer every hardship and privation, imputable, not so much to the intentional neglect and severity of the masters, as to want of judgment and system, in the exercise of the authority vested in them.

The plan which we would propose for rendering a ship's company more contented and comfortable is a very simple one. It is to enforce in each ship a well-defined code of regulations for the government of the whole crew. To establish a uniform ration of provisions; and to furnish to each master a small supply of sea-clothing, to be issued by him, at a fixed profit, to those of the crew that may need it. With regard to the provisioning of ships, there can be little doubt that owners would soon discover the advantage and economy of furnishing, to those sailing in their employ, a fixed and uniform ration. The arrangement would prevent the improvidence and waste so common in merchant ships, as also that fruitful cause of discontent among seamen, the alleged scantiness and bad quality of their provisions. It is but right that seamen should have secured to them a sufficient ration of good and wholesome food, and be exempt by law from a dependence on the caprice or cupidity of the master or owners. It is not intended to charge either with illiberality or unkindness to those serving under them, but it is well-known that seamen too frequently suffer on their voyages for want of provisions and water, a deficiency caused as often by their own careless waste, as the neglect of the master in providing an ample store, and fixing a regular allowance. These inconveniences, which sometimes become very serious, may be avoided by having it arranged that each officer and man shall receive of the ship's stores one ration and no more.

The additional supply of cabin stores must, of course, vary according to the bargain of the owners and masters;

but whatever arrangement may be made on this score, the established ration should remain the same, as an ultimate resort in case of need; hence the propriety of providing for each individual at the commencement of a voyage, whether officer, passenger, or common hand, a daily ration calculated to last double the duration of the passage. In the adoption of this system seamen would be gratified by the grant of certain rights, by possessing which they could have no further cause of dissatisfaction in regard to provisions; and ship owners would be relieved from all future care and responsibility on the subject.

The following is recommended as a just and suitable ration for men engaged in merchant ships, it is somewhat more liberal than that allowed in the navy, but in this service men require less food, as they perform less labor, and are made in every way more comfortable; indeed they scarcely ever consume their entire ration. On the Mediterranean and West India stations, a mess of ten seamen usually stop two rations, and at the end of each month draw the amount either in kind or in money, which they barter for fruit and vegetables.

PROPOSED DAILY RATION.

	Pounds.				Ounces.				Gills.				Gills.				Ounces.				
	Beef.		Pork.		Bread		Flour.		Peas or Beans.		Rice.		Molasses.		Vinegar.		Tea.		Sugar		
Days.	Quantity.	Cost—Cts	Quantity.	Cost—Cts	Quantity.	Cost—Cts	Quantity.	Cost—Cts	Quantity.	Cost—Cts	Quantity.	Cost—Cts	Quantity.	Cost—Cts	Quantity.	Cost—Cts	Quantity.	Cost—Cts	Quantity.	Cost—Cts	Daily cost. Cents.
Sund.	1½	9			16	4½	8	2					1	2	1	1	½	2	3	2	22½
Mond.			1½	10	16	4½			2	1½							½	2	3	2	20
Tuesd.	1½	9			16	4½					2	2½	1	2			½	2	3	2	22
Wed.			1½	10	16	4½			2	1½							½	2	3	2	20
Thurs.	1½	9			16	4½	8	2					1	2	1	1	½	2	3	2	22½
Frid.			1½	10	16	4½			2	1½	2						½	2	3	2	20
Sat.	1½	9			16	4½						2½	1	2			½	2	3	2	22
Weekly cost		36		30		31½		4		4½		5		8		2		14		14	81 49

This makes the daily average cost for each man, about 21 1-4 cents. And we venture to say it will be found

much less than the aggregate expense, in the present wasteful practice. In lieu of spirits, which are a part of the navy ration, we have substituted, at the same cost, tea and sugar; seamen in the naval service consume large quantities of tea, sugar, and tobacco, but as those articles are not components of the prescribed ration, they are required to pay for them out of their wages.

On the subject of clothing but little need be said, the propriety, indeed the necessity, of furnishing to each ship a supply of coarse slops for the convenience of the crew, must be evident to every one who has made a winter's passage at sea. The proverbial thoughtlessness of seamen, and the unforeseen disasters to which they are exposed, frequently place them in the most necessitous circumstances, and when thus thrown pennyless upon the world, their only resource is to find employment in the first sea-going ship. They embark perhaps at some port within the tropics, with a scanty stock of clothing, and are carried in the course of their voyage into a cold and stormy region, exposed to all the severity of the weather, their sufferings become insupportable; the safety of the ship cannot be neglected, and the poor fellows are often detained aloft for hours, amid the violence of the elements, half-naked, and nearly dead with cold.

This is not a singular nor exaggerated picture; in every ship that approaches our coast from the south in winter, the same exposures are encountered by some portion of their crews, who, less provident than others of their shipmates, have worn out or lost their woolen clothing. In truth the toils and sufferings of sailors on our coast in the inclement season, are inconceivable to those who, comfortably housed within their warm apartments, even there dread the storms that beat upon their windows, and think but little of the hapless sailor struggling, for days and nights, to guard their property from danger.

We insert a list of clothing, which may be considered a suitable supply for vessels, with the aggregate crews of twelve to eighteen hands. The quantities may be increased or diminished, in proportion to the number of the respective crews.

12	Coarse Woolen	Round-about jackets, each at	$4,50
8	" "	Monkey jackets - - - - -	6,00
15	pairs "	Trowsers - - - - - - -	3,50
25	" Flannel	Shirts - - - - - - - -	1,38
25	pairs Flannel	Drawers - - - - - - -	1,00
25	pairs Woolen	Stockings - - - - - - -	62
15	pairs Shoes	- - - - - - - - - - - -	1,00
15	" Woolen	Comforters for the neck - -	25
15	" "	Caps - - - - - - - - -	50

The whole should be purchased by the owners and charged to the account of the master, for whose responsibility he might receive, from the seamen, 25 per cent. profit on the cost. At the end of the voyage, an account of issues should be furnished to the owner, and the deficiencies replenished. The clothing should be tightly packed in linen covers with tobacco, and placed in a chest provided for the purpose. These details may, perhaps seem trite to the casual reader; but to those, who have witnessed the sufferings of sailors for want of comfortable clothing in bad weather, they will not appear wholly superfluous.

In conclusion we have only to notice another and still more serious evil, which prevails, almost universally, in the merchant service. The omission of religious worship on the Sabbath. It has been often and truly said, that sailors are particularly susceptible of religious impressions, and fond of participating in those solemn ceremonies. In none but the larger of our national ships are chaplains allowed, but this does not often prevent the observance of religious worship, there are always officers willingly disposed to read to the assembled crew an appropriate chapter, and a few prayers selected from the book of common prayer.

And why cannot the masters of merchant ships follow this worthy example? How glorious would it be, if our hundred thousand seamen, scattered as they always are over the whole surface of the globe, could be assembled on each Sabbath day, in whatever clime they may chance to be, and under the shadow of their own spotless flag, offer to Almighty God the homage of their adoration and praise!

Y.

THE RAMBLES OF CHRISTOPHER GRUM.

NO. I.

"In this world's wild uncertain chase,
What strange events at times take place!
Some bright with *joy*, some black with *sorrow*?
Omnium est rerum vicissitudo!
To-day what wonders *I* and *you* do,
That happen not again *to-morrow*!"

ALL blessings on the head of thee, Jack Clewline! though not the inventor of good fellowship, at least one of its most sturdy and industrious devotees. Prince of caterers! long mayst thou reign triumphant in the Epicurean republic, thy coat of arms—not a canvassed ship, proudly sailing in the midst of the ocean—but a plump, canvass-back duck, slyly scudding through a sea of gravy, and for supporters to the escutcheon, thickly clustering bottles of champaigne!

Reader! if thou hast aught of malice lurking in thy bosom against any of thy fellows, dismiss it, thou wilt then be freed from an unworthy guest, be a better man, and much better company for me, whilst we jog along together, in social converse about our worthy friend Clewline. The beau ideal of a true sailor had been long depicted on my fancy, but I found it necessary, at sight of him, to brush the picture over anew, now heightening, and anon diminishing, the little shades of character, as they showed forth in bold relief from beneath his wide brimmed tarpaulin.

In a kind of shorthand biography, Lieutenant Jack Clewline is a finished gentleman on shore, and, at sea, as good a sailor as ever paced the starboard side of a quarter deck; the brightest scintillations of good fellowship beam from his eye—its fountain is in his heart. He loves a good dinner, and who does not? but his is not the vulgar system of gormandizing and eating without rule or measure. No, he takes the wing of a fowl as delicately between his fingers, as you would a lady's hand, and minces and chews as fastidiously, as though it were a sin to devour it.

This is the true secret of the Epicurean, and the genuine preventive of dyspepsia: slow, moderate eating, good mastication, and a well proportioned admixture of fluids; and this art—I beg pardon—this noble science is perfectly comprehended, even in its most intricate points, by Mr. Clewline. He loves a good glass of wine, nay, a dozen of them rather than appear unsociable; it is true, he could drink a glass of water with a friend, upon a great emergency, but water is a thin beverage and cold—his stomach can bear nothing cold, no, not since he had the ague! Besides, champaigne sparkles and dances so coquettishly in a nice cut glass, that he imagines it to be the prison house of departed beauties, wan in complexion, bubbling in nature, and ever inviting to be kissed. He can sing a good song—aye, and a long one too, for short songs you must know draw few corks. He can sing, from a Mohican war song to a French chansonette; but put him at an Irish melody, and his soul bursts forth beyond the common barriers of staves and semiquavers; he melts in the sentiment of the poet, and, through a tear of mingled enthusiasm and delight, you view him, as he is, a noble, warm hearted, generous minded seaman.

I love a common sailor, I always did, and he who cannot has but little claim to manhood. He is the merriest boy that cracks a biscuit. A sailor's heart, like the buoy of his ship, is ever afloat, and rides as light and carelessly upon the mountain wave, as upon the calm and unruffled sea. When brought to an anchor by the winds of misfortune, he does not curse fate like a landsman, but with the most perfect nonchalance, furls his canvass, stows away a new quid of Cavendish, and whistles Tom Bowling till the storm is over. Talk of philosophy and contentment! their empire is a ship—their throne the forecastle! When the wind and storm rage, Jack thanks Heaven that he is out of the range of falling houses; and when the parching heat of summer scorches the earth and withers vegetation, he is equally thankful that *his* crops are not suffering. He knows every star in the sky, from "*Arietis*" to "*Pegasi*," the Taylor's Yard and Milky Way into the bargain, and once saw the Southern Cross and clouds of Magellan 10° north of the line! A

sea serpent, three hundred feet long, has twice come athwart his hawse; and he would have been devoured in New Zealand, when cast away in the schooner Mary of Salem, but the cannibals thought his hide too tough, and his bones not worth picking! A New-York packet was the handsomest ship he ever saw, and her figure-head a perfect resemblance of his lovely Sal!

He is a dandy, at times, and the greatest exquisite in Broadway might profit by taking lessons from him, in the grace and freedom of manly movement. His nice white frock with blue collar—the bosom, *sparkling* with *stars* of *linen*, and fastened in front with profuse bunches of ribbon—the full and clean pantaloons, neatly brailed amidships with a leather strap and buckle, and the whole surmounted by a little grass hat, with a length of ribbon floating in the wind, to correspond exactly with the mast-head pendant!

He prides himself upon being an American seaman—and who would not? He feels as a man and a freeman, and participates in all the glory, justly accruing to the navy of his country—which glory he himself helped to achieve. He lost an eye in the Constitution, and a leg in the Peacock—mere trifles—supernumeraries, given to lose! He now sees better with *one* eye, than he ever did before with *two;* and, as for the leg, every body knows that a wooden substitute is just as good, and less painful when broken. The old one was a "grog stopper," and the new one, in any after injury, will, thank Heaven, belong to the carpenter's department, and not to the surgeon's. But—"The boat's ready, Mr. Clewline," says a Reefer." "Very well, Sir." "Come, Christopher, on with your sombrero, boy, and let us be off."

A few miles back from Rio de Janiero, rise in bold majesty the Organ mountains, to the height of two thousand feet. Nearer to the city, is a famous sea mark, a solitary peak peering up abruptly from the mountain's top, and called, from its shape the Corco Vado, or hump-back. It is one thousand, eight hundred feet above the level of the sea, and on its top is a signal tower and flag staff. Immediately at the foot of this mighty rock, and between it and the sea, in a silent, fertile, and cosey little valley, is one of the finest gardens

in America. It is nearly a league in circumference, and contains the fruits and plants of almost every climate. It was originally owned, planned, and laid out by a Dutch gentleman of great taste and extensive botanical knowledge, who, from some cause, sold it to the government. King John then formed the only good plan that ever emanated from his brain—that of converting it into a national botanic garden. He transplanted into it both Chinese and Tea. The latter flourished well, and yet continues to grow plentifully by the acre, but of the former I could perceive no trace; they must have *returned* to China, or *turned* Brazillians—the latter not difficult for them, the color and features of both being nearly alike. So much for the history of the garden, now for the visit.

The sun had not risen, when, Mr. Clewline, myself, and a young reefer shoved off from the ship, brightly anticipating the adventurous pleasures of the day, the joy with which we should snuff the fragrance of tropical posies, and the refreshing roll and tumble we should take, on the first green grassy sod, like weary coursers after a long and tiresome journey. We were dressed particularly for the occasion: short blue jackets, summer hats, and, of course, our nice little dirks tastefully bent on. It is customary amongst naval officers—it is an order in fact in some squadrons—when they go on shore, in foreign countries, to wear side-arms. Unless in full dress, it is a perfectly useless custom, and betrays a want of confidence in the urbanity and honesty of those whom you visit. Your naval button is, generally, a sufficient protection from rudeness or violence; but should any fellow wantonly insult you naked-handed, you have for your defence nature's and a sailor's side-arms—a good pair of fists; and should you fail to use these to advantage, I would place not much reliance upon the support a sword would render you. I have been ashore in many ports, in all corners and at all hours, without sword and often without a companion, and I have never once been insulted by man or woman; so that I am, naturally, led to the conclusion, that a wineless head and a civil tongue will carry you all over the world, without your pockets being

rifled, your nose tweaked, or your skull cracked. "Very spirited looking horses these, Mr. Clewline," said I, as we entered the livery stable, kept by an Englishman, where horses are let at the rate of four dollars a day to foreigners, and two dollars to natives! "Aye, Christopher, but a little too much of the Rozinante breed to my notion. Look at their ribs, they appear as though they had been fed on hoop-poles; but, mayhap, that spirit you have remarked has wasted away their flesh, as is the case, you know, very often, with certain fidgety, frothing, prancing mortals of our own species!" Take that, Captain Copperswab, thought I, but I said nothing. The old luff was, evidently in, a growl-philosophical mood and I awaited a return of that good feeling of which no man on earth has a greater fund. A very cleanly and extensive livery stable this, but the bridles which are in use here, are not only terrible for the poor horse, but dangerous to an uninitiated foreigner. They are complete breakjaws, with such powerful levers or snaffles, that with a very slight pull upon the reins, a strong horse might be brought upon his beam ends.

At seven o'clock, we jumped into our saddles; and, with a mounted Englishman for a guide and interpreter, gallantly sallied forth, through the dark and narrow streets of Rio. Clewline is, decidedly, as fine and graceful a horseman, as I ever saw mounted in a saddle. The little reefer rode in the centre, and the guide some distance ahead, so that, altogether, we formed a cavalcade no ways despicable in appearance; and one, upon which the bright-eyed Brazillian damsels looked significantly pleased, as they bent over from their rude verandahs, in careless dishabille, luxuriating in the cool fresh breeze of the morning.

I felt as if breathing the very air of romance, as we passed the antiquated buildings, comprising the Bishop's residence, the sombre castellated monastery, the high-walled and ivy-turretted nunnery, and rode through the bastioned tower gate of the former viceroys of the province. A winter's sun in this climate is any thing else than frigid or unsociable, and, even at this early hour, we felt his friendly disposition, in pretty nearly the same manner that a leg of

mutton does that of a well trimmed hickory fire. But, maugre such a trifle—we pranced along the noisy beach of Gloria hill; cooled our horses in its breaking surf; and in a little while, found ourselves alongside the bay of Bota-fogo, the principal residence of foreigners, and the most sequestered and silent little marine mirror, that a poor fellow would choose to look into, just before taking a last leap. Bota-fogo would be an invaluable acquisition to the English nation—a romantic harbor for poetical suicides. Prayo do Flamengo, Sao Christovao, or Mata-Porcos, three nice bays at the back part of Cidade Nova, are well enough, too, in their way; but the Brazillians are not given to drowning, and, therefore, turn to little account the fine capabilities with which nature has, so kindly, surrounded them.

The road, for the greater part of the way to the garden, (which is about seven miles from Rio) is bounded, on each side, by living fences of rose bushes, woodbine and prickly-pear, supported at irregular distances by ever-bearing orange trees, bananas, and the wide-spread, lofty palm. Three miles from town, you pass through a deep cut from the solid rock. I saw a few scattered cannon on each side; it is the only passable point to the city, from this quarter, and might be made capable of any amount of resistance. The country residences of the rich are scattered thickly on either side; generally built of stone, plastered outside and whitewashed; very durable, very pretty; and forming, altogether, a pleasing contrast with the dark green foliage surrounding each mansion.

There is one incongruity about the houses, that immediately strikes the eye of a foreigner: the lower story being invariably occupied as a stable and carriage house and, through which is the grand entrance to the living apartments and saloons above. Whether this arrangement is produced by a love of convenience, or a spirit of ostentation, I cannot tell. I should, however, judge the former to be the motive, as I can most solemnly declare, that I have not seen in the whole city of Rio and its suburbs, an elegant equipage, or one that would, in any degree, adorn a carriage house. The only thing of the kind worth passing notice, was a

clumsy, open, six horse establishment of the Austrian ambassador. *Mules* are the principal carriage *horses*, and nothing is more common than to see one of these animals, harnessed in, between the files of an old gig or volante, with a jackass on his starboard side, surmounted by a postillion, booted up to the hips, spurs a foot long, silver-laced hat, and an old green livery coat, with the hip buttons between the shoulders! This is style—and, with crack of whip, off moves the whole concern at the enormous rapidity of two knots an hour, with a sleepy old matron in the stern-sheets, hid, from vulgar gaze, by a piece of painted canvass bent on to the top railing! Whew! how hot it is—push on my brave horse, I have almost tired thee riding so far, on so lubberly a digression; but courage, we shall soon be at the end of our journey.

Yes, here we are at last, at the gates of Tivoli, the Garden Hotel—superior to its namesake in Italy—breathing the perfumes of this little Elysium, and within hailing distance of the very throne of Flora's empire. Our horses are stowed away, and the French waiters, impressed with the great importance of their guests, are amusingly bustling around us with wash-basin, damask towels, and rose-water.

After a little rest, and refreshment, we bent our way to the garden gate, where we knocked for sometime before the sleepy, negro porter appeared, with a huge key, and admitted us. On the left hand side, as you enter, is the Tea department, growing in little hills like corn, on shrubs, from three to four feet high, at this time in full blossom, and undergoing the operation of hoeing, from a dozen female slaves, young, able-bodied, and in a complete state of nudity from the waist upward. Notwithstanding, they appeared to be full of joke, joy, and pleasantry; and, when I approached to examine the little trees, a laughing, ivory-mouthed girl of fifteen, stepped forward, plucked a full blossomed tea-flower, put it to her lips, and then presented it to me, with such indescribable grace and modesty, as would have done honor to the most acccomplished lady. I accepted it with many thanks, not only as being intrinsically a fine specimen, but a token worth preserving of the courtly manners, and withal, simple elegance of a slave. Gravelled walks, wide enough

for a carriage, and a mile in length, intersect each other at right angles, in many parts of the garden; they are shaded by the majestic trees that furnish the Brazillian dye-wood, also by the Jan Garden. Balsa wood grows to an immense height, in a few years, and is valued on account of its lightness, being not much heavier than cork—it is used for building a kind of surf-boat, called Balsa, which is of great service, not only here, but on the whole coast of Spanish South America.

A little farther on from the tea-plantation, and you come to a fragrant shrubbery of cloves, allspice, and cinnamon, surrounded by wrinkled and venerable looking tamarind trees on the one side, and on the other by the tall and succulent sugar cane. We pursued our wandering and careless walk from sun to shade, from thickets of underbrush in the coffee-grove, to the scattered piles of tulips, roses, dahlias, and the sweet scented jessamine in the parterres—observing something new at every turn, and delighted with every thing we saw. Now, stuffing our pockets with pilfered plants, and again, jumping over the beautiful streams, that flow through all parts of the garden in straight and grassy-sided channels, whilst the little reefer would linger behind, his jacket sleeves turned up, and, every now and then, plunging his hand into the silvery water in the vain endeavor to catch a sportive, but cautious, little trout.

In the centre of the garden is a summer-house, ascended on every side, by eight or ten steps made of sod, nicely trimmed and verdant. The walls of the summer-house, itself, are living, the *arbor vitæ* having been taught to wind around bamboo posts, stuck in the ground, making an enclosure of sixteen feet square. The spicy fragrance of the garden insinuates itself, between the leaves of this fairy retreat, without an accompanying ray of sun to glimmer in, or mar, its refreshing shade. In the centre, elevated upon stone pillars, stands a slab of marble, the size of a tombstone. I stretched myself upon its cool surface—whilst Mr. Clewline and the youngster were boarding a tamarind tree—and soon I fell into a profound sleep. My friends, my home, quickly flitted, in the scenery of a dream, before me; and I was actually

screwing up my lips to salute a certain lady of my acquaintance, when a large tamarind pod was rudely thrust down my mouth, by Clewline, who, entering at the moment, and seeing my mouth open, conceived and executed the horrible act, that instantly broke my sleep, banished my dreams, spoiled my kiss, and set me coughing, for the ensuing half hour.

I shall not attempt a description of the many rare and valuable plants, native and exotic, to be found here; it would be uninteresting to most readers, and, therefore, better omitted. But, should any enthusiastic botanist be chagrined by this omission, I hereby invite him to call upon Mrs. Grum, who is a very kind, clever woman, in her way, and she will introduce him to a large book of cartridge-paper, between the leaves of which may be found every weed, from the class Monandria to Cryptogamia, and the flowering tea-plant, the pretty, graceful slave presented me, into the bargain.

After sauntering through this Brazillian Eden for some hours, we steered for the gate, first cutting our names on the smoothest trees, and next emptying our pockets of the loose silver to the porter and slaves, who accompanied us. The fellows hesitated about taking the money, not considering it as of much value—they would have preferred a few copper *vintens*, of the tenth part of the value of the silver we presented them. Copper coin is the principal currency of the country. Silver is so fluctuating in the rate of exchange that one day a Spanish dollar will be at par—that is, worth a mill rei, or 1000 reis: the next day it will pass for 1300, or 300 above par. There generally is, however, a considerable premium for gold and silver. As we reached the gate, I turned back to take a last look; and never, I believe, did a heart more fervently adore the God of nature, than did mine, as the door closed from view some of the most luxuriant of his works.

We sat down with a good appetite to a good dinner—the dessert was excellent—and, out of conscience sake, we could not do less than set it afloat, in a snug little sea of champaigne. We did full justice to our host of Tivoli; and feeling in perfect trim, from truck to keelson, we mounted our horses, put the helm hard up, and made all sail for Rio.

Sailors love to ride fast: the wind freshened, and we were scudding along, at the rate of ten knots, on a taunt rein—my lean quartered craft was far ahead—when Clewline, fearing a squall, passed the word to shorten sail and heave too, which I did rather suddenly, and, by hauling taunt on the reins, brought my horse on his beam ends, and was fairly capsized over the taffrail! My head struck upon a stone; darkness covered my eyes; and I lay on the ground entirely senseless. The first thing I could perceive, after some minutes, was the good-hearted Clewline on his knees, by my side: he had grasped my hand in his, and I felt the hot tear fall upon my cold and pallid face. "Christopher! Christopher!" he exclaimed, squeezing my hand like a vice, "poor fellow, you 're a gone case. It's all over with you now! pity thus to founder at the commencement of a cruize, in such good trim, and with so precious a cargo in thy hold, Christopher!" —"That's all a bloody yarn, Mr. Clewline!" exclaimed I, jumping up, half-stupid, and full of amazement. "Thank God, that it is a yarn, my lad," replied he—"Thank God," and tenderly embraced me.

But a bloody yarn it certainly was, for I felt the precious liquor, in a hot stream from my head, coursing down my back. I knocked my jaws strongly together to find, by the concussion, whether my skull was cracked, but no crack was there; and the youngster having, by this time, caught the horse and picked up my hat, I once more jumped into the saddle, with the comfortable reflection that a man, after all, is never incontrovertibly killed till he is dead, nor ever totally undone till he is hanged!

O nature! kind nature, how many a time and oft have I thanked thee, for bestowing upon me one of the best and most desirable of personal properties—a hard head! I well remember, when a youngster, one bloody-minded pedagogue, who had the most unconscionable and itching propensity for bringing his big knuckles, into violent contact with my cranium; but, happily, his knuckles always got the worst of it. It was not, till after breaking all the ferules in school over my head, without the least apparent effect either on my

tricks or problems, that he relinquished the experiment, as entirely useless.

The visage of the good soul now flits before my fancy, in the same forlorn and long-faced attitude he exhibited, the day in which he broke his last ferule, for my especial benefit. With outstretched hands, and the uplifted eyes of a prophet, he declared that it was possible I might be shot, or hanged, or drowned, or put out of the way in some such manner; but, that, he was very certain, from his own experience in the case, that Vulcan's sledge-hammer could not crack my skull! Of course, I thanked the kind-hearted gentleman, most graciously, for his flattering and consolatory prophecy; and, had one part of it fortunately verified in my lucky escape to-day. So that now, perchance, if I escape hanging, drowning, shooting and breaking my neck, I may yet enjoy a pleasant and green old age.

Covered with blood and dust, we jogged slowly along till we came to a handsome house a little back from the road. Here, we dismounted, walked up the nicely paved avenue, knocked at the door, and were admitted by a respectable looking, elderly lady. She at once understood the object of the visit, by casting a glance on my bloody head; and going out, soon returned with a slave, bearing a basin of water and a napkin, and followed by delicate girl of seventeen. I had but a partial view of the young lady on her first appearance; but, when she turned round, looking me plump in the face, through a pair of richer black diamonds than a Brazillian mine ever produced—her pretty cheeks dimpling, while a bookfull of kind, sympathetic words played on her lovely lips—I was fairly entranced. I forgot my poor lacerated head, and clotted hair, in looking upon so fair a creature—the blood, ceasing to trickle down my back, changed its course and mounted to my face, and what, with actual faintness, and the excitement of the moment, I was forced to lay my head down upon the sofa. This was no sooner perceived by the sweet girl, than she stepped forward and supported my head with her little white hands, whilst the slave plied her wash-basin so industriously, that in a few minutes I looked like myself again.

We understood not each other's language; but, I flatter myself, I expressed to her my heartfelt gratitude, by that universal tongue of nature—the eye.

An attachment of souls may be formed in a moment, by accidental circumstances, as strongly as in a year; and I would have risked my life for that sweet, pity-bestowing being, whom I had not yet known for an hour. In every department of life may'st thou be happy, bright-eyed Brazillian! and whenever Christopher Grum—hang the unpoetical name—offers up his prayers, for those he most loves, thou wilt assuredly be of the number.

We gesticulated many thanks, and arose to depart, the old lady accompanying Mr. Clewline and the young reefer to the door, whilst, somehow or other, I instinctively lagged behind; and, seizing the delicate hand of this fair creature, I imprinted on it a warm, grateful, and parting kiss, whilst her innocent heart fluttered, her face flushed, and she——Pshaw—pshaw—I'm dreaming—my senses have not been righted since that untoward fall; and hereafter, when, by accident or design, I shall err, the evil one, no doubt, will tempt me to lay every pecadillo to the unfortunate squall that waterlogged my brain!

"Alas! Christopher, thou hast a very erring nature: thou wilt cry at a tale of misery, and sigh at a song of love; and, if a pretty black-eyed girl looks upon thee, with the least sprinkling of tender partiality, thy foolish heart goes abumping against thy ribs, like the hammer of a fulling-mill, and thou art at once transformed into a poet—a serenader, and a—fool! But after all, it is not thy fault, but the fault of nature, who gave thee such largely developed bumps, in the after part of thy skull!"

Yes, a man's propensities are neither wholly subdued by experience, guided by reason, or eradicated by education. He is entirely the creature of circumstances; and governed by those well-defined feelings, that accompany every particular mould of nature's casting. Laugh at the phrenologist, if you please, but let me politely insinuate that you are nothing wiser for so doing. Nature has stamped character on every face, and marked intellectual capability upon every skull.

That man, with the high, perpendicular forehead, the bony arch of whose eye is so prominent, you take to be a man of talent, and of thought. You are right. But to him, with the low, retreating, corrugated brow, you would never think of presenting a question in algebra, or a problem, for solution, in Euclid. That young lady with the sharp pointed nose, thin lips, and hatched-shaped head, you take to be petulant. Yes; and, when a wife, will become a most incorrigible shrew. But that rosy-cheeked girl—with ideality so large—dimpled chin, and full, pouting lips—Christopher Grum knows, full well, what kind of a wife such a girl would prove.

The commission of crime is very frequently an involuntary act; and a man may commit murder without having a cankering revenge to satiate, a rival to supplant, or an empty pocket to fill. He is forced on, then, by an innate thirst for blood—an irresistible impulse from the organs of destructiveness—without an earthly motive; and, with the certain knowledge that he will suffer death as a penalty, he destroys the being he perchance most prized and doated upon! Such cases are not uncommon; but, notwithstanding their being involuntary perpetrations, they should invariably be judged as those in which there was malice prepense. The plea of insanity should never be admitted—the criminals should be condemned on the same principle that we destroy rabid animals—to prevent further injury to society.

A benevolent man will empty his pockets to the call of want, even though poverty be at his own door; he cannot resist the importunity of doing a charitable act, though he be, almost, an object of charity himself. Thus many of us are born poor wretches, with our cranii full of frailties and evil propensities, which the best directed education frequently fails to correct. Education, by directing the mind to a particular study, frequently increases the power of a particular organ or faculty, whilst it diminishes that of another less desirable, and less to be cultivated. The golden age of phrenologists will be that, in which they will be able, after surveying the sconce of an urchin, to point out the necessary, and especial education, by which all his valuable talent may

be tutored, and every bad propensity suppressed: by which he may be saved from the gallows—and made to adorn a pulpit !

Pardon me, kind reader, for this sconceological digression; the best and wisest men are frequently led astray, from the onward course of their story, either through a love for wandering, or a desire to advance a particular theory. But with me, digression is a bump, an inborn propensity—I never, yet in my life, followed a straight line for five minutes. Even when going before the wind, and spanking along in a sea of sunshine and pleasure, this bump of digression would suddenly put the helm a-lee, and in a moment I'd find myself close hauled, upon a wind of pain and disappointment. Thus my whole life has been, to use a very appropriate simile, like a Virginia fence, as zig-zag as Satan himself could wish it.

As we arrived at the end of the avenue, I turned round to take a last look of the beautiful Brazillian—there she stood in the balcony, leaning against one of the pillars, her hand supporting her cheek, and looking down intently upon us. I took off my hat and waved an adieu ; she answered it by the flowing of her white handkerchief, and then, and for ever, disappeared from my view, through the glass door that opened on the verandah. "Heaven bless thee, sweet angel !" I exclaimed, as Mr. Clewline shut the gate. "What, Christopher, fairly in for it, my boy—boarded by an angel already, eh ? Fine girl, that if she spoke a Christian lingo —modest too—but—beware of women, my lad," he continued, "they are a sharp-built kind of craft, hard to forereach. "I once loved a woman, beautiful and fair, aye, beautiful, and pure as an imagined angel. I would sit for hours playing with her auburn hair, now parting the sunny ringlets and equally dividing them on her high and polished forehead, and, again, fancifully inserting, among them little bouquets of the rose and violet. In the beautiful moonlight nights of our own happy country, I would take her arm, and we would saunter down the locust avenue, skirting her father's garden. I would tell a tale of the sea, or the perils I encountered, when in pursuit of pirates in the West Indies.

Once swamped in a boat, off St. Jago de Cuba, and another time, when in chase of a felucca, through one of those deep lagunes near Matanzas, shot through the leg, and before assistance could be given, almost bled to death. During the recital, she would instinctively press my arm closer to her, through fear of danger that was past; and, frequently have I seen the tear steal down her cheek, while the moonlight converted it into a more splendid pearl, than ever lay enclosed between the valves of a Mytilus Margaritiferus. Could I help loving such a creature, all soul and sentiment? No, I worshipped her—became an idolator, in gazing on her purity of perfection.

"I loved her too sincerely to entangle her in the miseries of a private and unprovided marriage. I was, then, but a midshipman of nineteen, with means barely sufficient to keep a young man in decent trim. Her parents, from sordid motives, soon forbade me the house; and I determined upon applying immediately for sea orders. I begged an interview, we met in the locust grove, the moon shone sweetly upon us. I playfully cut off a ringlet of her hair;—look, Christopher, here it is. I carry it in my bosom, in this little locket! here it shall ever rest. It is my amulet, it has changed the course of many a ball, and preserved me from many a danger. I told her to be of good cheer, we should meet again under better auspices, in more sunny times. But we never met again—she is in heaven, and I am—here! While at sea, my death was reported, and though afterwards contradicted, the truth never reached her. She was forced into a marriage by her parents; but, within a year after, herself and her babe were wrapt in the same shroud, and now sleep quietly in the grave together!"

The brave Clewline at this moment turned aside his head, pulled out his pocket handkerchief, and—"I say Christopher, beware of women (continued some evil spirit in my ear) they weave the meshes of seduction so completely round a man, that he becomes irretrieveably entangled; he is then like a fly in the web, and she, alas! too often plays the part of a spider. Learn to overcome your present foolish propensities. You have a heart like butter, man, soft, too

soft, for an intertropical climate, where every thing melts so soon. Every bright eye you see makes an impression upon it like the wooden stamp of a dairy." "True Mr. ***** prompter! but a heart that can be stamped and restamped—every new impression effacing the former—is, after all, a very comfortable and convenient one, especially in a world like ours, so full of the stamping eyes of youth and beauty." "What's the matter, Mr. Clewline, your eyes look red." "Dust, Christopher, dust got into them, and I have irritated them, I suppose, by rubbing." But!—what have I been doing? Two pages of a love story, and a bit of advice from the evil one in addition! Well, forgive me once again, and we will hasten to the end of our journey.

Once more, we jumped into our saddles; and a person, to look upon me now, would scarcely have thought that I had been, so recently, taking practical lessons in the sublime art of *ground* and *lofty* tumbling! In our way to the city, we made a few calls upon some American families—amongst others upon that of Mr. W****, an open-hearted, generous, and wealthy merchant. We were ushered into the drawing room, without ceremony, where we found the two young Misses W****, beautiful, interesting, and highly educated girls. The barriers of formality were at once broken down, and we entered into a rapid, pleasing conversation, on a subject first broached, when citizens of the same country meet in a foreign land—

"Home—sweet, sweet home!"

After an hour, we took our leave, highly pleased with our visit, and the graceful ease and refined conversation of our fair countrywomen; and arrived in Rio, just as the sun was throwing his last beams upon the cupola of the grand cathedral. The day happened to be the festival of some great saint, and his portrait in a glass frame was presented me to kiss, in the Campo d'Aclamacao, by a greasy looking Carmelite. I gave him a *media*, in lieu of the sacrifice. The military bands were playing and the elite of the city promenading round the fine parade square. Every person appeared to have his fill of pleasure and amusement. I

have forgoten the saint's name; no consequence, however. Under his patronage, we got "half seas over," and shared, for the greater part of the night, in the joy and merriment of the shore. Pardon me, ye charitable temperance men, and, in the plentitude of your grace, forgive a poor, weak mortal, for having once trespassed, against your wise and omnipotent proclamations. Men have different constitutions; he of the sanguine temperament, with an alderman's figure, red cheek and double-banked chin—he should live on hastypudding, drink nothing but molasses and water, with now and then a little dash of vinegar, by way of variety—but I—a poor sallow-cheeked, cold, phlegmatic mortal, whose whole constitution possesses not sufficient latent caloric to melt a lump of butter, who was born with the thermometer 14° below zero, and in place of a sugar stick, first sucked an icicle! Why, to keep up any thing like the appearance of life, I should live upon jellies, turtle soup and the quintessence of marrow-fat, bathe daily in a tub of Madeira, and have my inner man, besides, well dashed with champaigne! The juice of the grape was invented solely for creatures of my temperament, and the inventor (old Noah) has received the thanks of each succeeding generation, for his ingenuity and grief destroying philantrophy—

"Heavens! what a world we live in! Oh! how sad!"
To this thy long experience will agree,
Half fill'd with fools—be-devil'd, drunk, or mad,
Or altogether—Clewline, just like thee and me!

"Just like thee, but not like me, Christopher; and, as for the world, 'tis not so bad, after all, as some persons say it is. With a few trifling additions, and emendations, I would not, willingly, exchange it for any other. Five and thirty summers have I basked in its sunshine, picked its flowers, and lived upon its sweets—sometimes, it is true, they were a little acidulated—and"——"Boat, ahoy!" sang out the quarter-master, as we were stealthily passing under the bows, at three bells, in the mid-watch. "Aye, aye! old Bunting," answered Clewline. "That old rascal of a quarter-master," continued he, "always hails loud enough to wake Captain Copperswab; who, invariably, rings his

bell for the orderly; who calls a midshipman of the watch; who trots off to the officer of the deck, with Captain Copperswab's compliments, to know what boat has come alongside, at such an unusual hour, and the cause of that noise?" &c.

Bunting, by this time, had a lantern at the gangway, and we passed over pretty well—considering circumstances. "I say, Bill," says one beauty to another—as they came up the main-hatch, from their hammocks, minus every thing but their shirts, to take a cooling promenade on the forcastle —"what a list a-port, Mr. Clewline has, eh! Bad stowage that. I tell you what—them two officers has more grog under their jackets, than you and I got a dozen apiece for yesterday!"

ON STEAMERS OF WAR.

By a Member of the United States Naval Lyceum.

When the application of steam to propelling vessels was first successfully made in this country, it was at once seen that the invention was destined to produce an important effect on naval war. We happened then to be engaged in our conflict with England. Our coasts were blockaded to the total interruption of trade, and the annoyance of the inhabitants of our whole maritime frontier. Being unable to cope with the forces sent against us for the want of a navy, our ingenuity was sharpened to overcome the disparity between the power of the enemy and our own weakness, by the introduction of a new arm. This led to the first application of the newly discovered agent to warlike purposes, by the construction of the steam frigate Fulton. This first attempt was naturally enough a very rude one. The vessel was clumsy, cumbersome, and very slow in her movements. Still, having the power to move at the rate of five miles the hour, she would have been able to take advantage

of calms to destroy such of the enemy's vessels, as lay near the harbor of New-York, and compel the blockading fleet to remove to a more respectful distance. The formidable character of this vessel was, however, never tested. Peace was made before she was quite prepared to seek out the enemy, and the improvements, which would have been rapidly introduced in succeeding constructions, were prematurely arrested.

Since then nothing further has been done, among us, towards the construction of steamers of war, until within the last year; although they might have been made eminently useful, in the suppression of piracy in the West India seas. One vessel was, indeed, employed there during a short interval, rendering essential service, which could never have been rendered by a sailing vessel, in breaking up a nest of pirates; notwithstanding her defective adaptation for the sea, which she was never intended to navigate. While steam vessels can move with celerity among the keys that abound along the coast of Cuba, and, in defiance of the trade winds, traverse great distances and appear suddenly where least expected, they are, from the wholesome agency of their furnaces in purifying the air, guarantied a complete exemption from the desolating fevers that decimate our crews in those seas, and all the minor consequences of tropical malaria. It is therefore very extraordinary, that, in a country where steamboats have not only been invented, but received every improvement that has brought them to their present perfect condition, no use should have been made of this valuable agent where its advantages might have been inappreciable.

If, however, the construction of steamers of war has been neglected among us, other naval powers have been more alive to their importance. England and France have, at this moment, quite formidable lists of this class of vessels. England has twenty-one and France twenty-three steamers in commission. France, looking to the possibility of revolutionizing naval war by the introduction of a new agent, and breaking down, in some measure, the disparity between herself and England, by rendering the fleets of the latter, to a certain

extent useless, has rather taken the lead in developing the capacities of this new arm. England has reluctantly assented to the change, and is now endeavoring still to maintain her relative superiority in this arm also. We have, quite recently, seen accounts of the fate of an action, between the British Legion and the beseiging Carlists before St. Sebastian, having been decided by the opportune arrival of a reinforcement in the Phœnix, Salamander, and Comet steamers, and by their own efficient co-oporation by means of shells, and hollow shot from their sixty-four pounders, in opening a practicable breach through the batteries of the besiegers.

If the co-operation of steamers of war with armies on a coast may be useful, and if they may render it absolutely impossible for a power, however strong on the ocean, to blockade an inferior power provided with this active and always available agent of annoyance and defence, their co-operation with fleets of sailing vessels, in great engagements on the high seas, will not be less advantageous. To test the question of their utility, suppose a fleet of twenty sail of the line, attended by several steamers, encountering, in calm or nearly calm weather, an enemy's fleet of thirty sail without those auxiliaries. The inferior fleet might, then by the aid of its steamers, place itself at a sufficient distance from the enemy, to be beyond the reach of its guns, and in a favorable condition to escape, on the springing up of a breeze; or, adopting the nobler alternative of combat, the inferior might, by the aid of its steamers, choose its position, and assailing the superior fleet in detail, thus render it inferior and actually overcome it, by being stronger on every given point of contact. The steamers might not only be employed in towing the ships into action, or removing disabled ones and prizes to a position of safety to refit; but, in the intervals, use their formidable guns from raking positions with destructive effect. Hence it appears, that it might be not only possible, but easy, under given circumstances of very possible occurrence, for an inferior fleet by the aid of steamers to overcome a superior one.

It follows that steamers must, henceforth, take a prominent part in every future naval war; and that they may be

equally useful in protecting a coast from blockade, and in co-operating actively with fleets upon the ocean. The question next occurs, whether different forms of vessels will be required for these different services. We think not. Steamers for the defence of a coast should have a light draft of water, so as to keep inside of a blockading fleet, and go, if necessary, where they could not be followed; for the sea, they must, from their very nature, be of the same relative construction. They must not be deep and sharp like other vessels, with their body almost entirely immersed, and rising and falling with every sea; but they must be comparatively flat, floating on the surface of the waves, as nearly as possible, on an even keel, and with their paddle-wheels uniformly immersed, instead of being plunged deeply beneath the water and then withdrawn entirely, as the wheels would be if attached to a sailing ship. While there would be no possible reason for any distinction of model between steamers intended for the defence of the coast and those intended to perform sea voyages and co-operate with fleets, there is every reason why they should combine an adaptation for both purposes. Even to act with efficiency on the coast requires a capacity to brave the perils of the sea in passing from point to point.

We have, at length, recognized the necessity of preparing for the change in naval war which has resulted from the inventions of our countrymen, by commencing the construction of a steamer at the Brooklyn navy yard. The question occurs, whether in the form of this vessel attention has been paid to this double adaptation, which we have assumed to be essential. We fear that it may not prove so; her model does not appear suitable for a sea-going vessel, and her having two bows, with a rudder at either extremity, will probably prove very inconvenient. The only advantage derivable from this arrangement would consist in its enabling her to escape from an enemy, which she had been assailing, without turning so as to expose her broadside. This advantage is a very speculative one; for, with a single rudder, she might back sufficiently far astern to be but little exposed in turning. The disadvantages attending this

arrangement are more real and obvious. In the first place, since the bow and stern of a vessel should, according to the rules of naval architecture, be of different form, in order to give the greatest velocity, there is necessarily some loss of this vitally important quality in making them similar. In the next place, supposing the vessel to be otherwise adapted for going to sea, it would be impossible to secure the foremost rudder so as to resist the shock of the waves when in rapid motion. To avoid this insuperable difficulty it is contemplated to unship the foremost rudder and take it on board, where it will be much in the way. Besides, this rudder cannot be unshipped without a cumbersome apparatus; and this apparatus must be placed in the extremity, precisely in the way of the heavy bow gun, which is to be the great offensive agent of the vessel, and which, according to an established axiom of naval discipline, should be at all times clear and unincumbered.

If, then, this vessel should be found defective, the question will occur, what ought to be the form of a steamer of war intended to serve the double purposes, of defending the coast, and co-operating on the offensive, with fleets? Perhaps the surest mode of obtaining a model for steamers of war, which might serve for all future constructions, would be to call in the assistance of an American citizen, who has invented almost every improvement in the steamboats of our country, from the first efforts of Fulton, down to our own times; and who, besides, has directed the energies of his extraordinary mind to this very subject of steamers of war, having, during our late difficulties with France, not only prepared plans for the construction of a formidable steamer of war, but even conceived, and avowed, the patriotic and chivalrous intention of embarking, both person and fortune in the deadly struggle, to which his inventions would have given a new and terrible character of destructiveness. This individual is Robert L. Stevens, Esq., and we do not believe that his services would be withheld, if properly sought, and left free from that dictation, and supervision of plans, to which genius, unless trammelled by poverty, is unwilling to submit. In addition to this gentleman's superior

knowledge of the construction of steam vessels, and the arrangement of their machinery, he has employed himself during years in perfecting the hollow shot which he himself first invented, and in a long series of practical trials in which their destructive qualities were sufficiently tested. The same individual possesses, therefore, better than any other, the knowledge and practical experience necessary to build equip, and arm this peculiar class of vessels, which are destined to become such important agents in naval war.

If possessing within our country the profoundest and most sagacious genius for inventions of this nature, tried during the last twenty years in a series of improvements in steamers, which have all been productive of the most splendid results, we may not have the benefit of it in establishing the future model for our steamers of war, it will be better, instead of starting with an entire novelty, to make use of the experience of other naval powers, which have been constructing steamers of war during the last ten years; and improve upon their plans, through the aid of our own superior skill, in the application of steam to navigation.

The French steamers of war have chiefly been used in the Mediterranean, and been constructed for the purpose of navigating that circumscribed and comparatively sheltered sea. Besides, France has invented nothing in this respect, and derived all her ideas, with, indeed, the greater part of her machinery ready constructed, from England. The English steamers therefore are best worthy of attention. On their own coast they have to encounter habitually the most tempestuous gales, and they have besides made voyages in safety to most of the remote seas frequented by the fleets of England. The English government steamers are of two classes; one class being of a size varying from one to three hundred tons, employed as mail packets between Dover and Calais, Dublin and Holyhead, and Falmouth and the Mediterranean, and also as tenders to fleets; the other, of a more formidable kind, varying from six to nine hundred tons, peculiarly armed, and calculated for offensive warfare. Two or three of the smaller class might be advantageously employed by us on the coasts of Cuba and St. Domingo, and

in the Gulf of Mexico, because, at the same expense, the armed presence of our flag might be more multiplied for the purposes of protection than by a smaller number of vessels of superior force. Facts concerning the form and equipment of the larger class of vessels, may, however, be the more interesting, especially as they are of more recent construction.

The following are the dimensions of a British steamer of war visited by the writer at Woolwich. She was of 800 tons burthen; 174 feet long on the upper deck; 153 feet keel; her moulded beam was 31 feet; depth in the engine-room 17 feet. Her draft when launched was 8 feet 4 inches forward, and 8 feet 2 inches aft, with a displacement of 530 tons; when ready for sea her draft was 13 feet forward and 14 aft. She had two engines of 110 horse power each; with a diameter to the cylinders of 55 inches, and a length of stroke of 5 feet. The height of her shaft above the water-line was 5 feet Her consumption of coal was 23 bushels the hour at full power. She stowed 260 tons of coal, 35 tons of water, and 4 months provisions for 100 men. She was said to be full amidships, with a flat floor, the bow being sharp to the water-line, and run clear; the stem raked, but the stern was nearly upright and round. None of the machinery except the chimney and water-wheels was in sight, the cylinders lying horizontally below deck. The engine and boilers occupied the whole body of the vessel amidships; before and abaft them were between-decks for the accommodation of the crew and officers. This vessel was brig-rigged, with very taunt lower masts, having a great space between them She had a square foresail, but no square mainsail on account of the chimney, light topsails, and topgallant-sails, and head sails, like a schooner. She carried no long-boat amidships which were gratened over the engines, and only stern and quarter boats. Her armament consisted of a pivot 32 pounder on the forecastle, ranging on both bows, and considerably abaft the beam; abaft the wheel-houses were two 32 pound carronades, and on the quarter-deck a medium gun, weighing 84 cwt., and bored to receive a ten inch ball or hollow Paixhan's shot, mounted on a pivot, so as to

range over the taffrail, and forward of the beam, on both sides. The greatest speed of this vessel, on trial, was 10 knots, or geographical miles, the hour; and even the midshipmen, in extolling her good qualties, did not venture to boast of more than 11 or 12 knots, which are, of course, subject to the customary reduction. This vessel, and others of her class, perform well at sea, and have encountered the severest gales without being disabled.

In giving the foregoing facts with reference to an English steamer of the most approved construction, we would not venture to suggest that we should imitate it in the construction of ours. But in the absence of the enlightened ingenuity and experience of the distinguished engineer to whom we have alluded, if the country is not to have the benefit of his talents, these data might form a basis for a model, which it would be safer to trust to, than any crude novelties, unsanctioned by the name of some distinguished and practised engineer. Perhaps the Charleston packets might furnish useful hints in contriving a proper model. They are much faster than the largest British steamers, and have triumphed repeatedly over the most violent gales. Their voyages are, however, all short; and they depend entirely on steam, having only a single sail to use in case of disorder to their machinery. A steamer of war, on the contrary, must be fitted to cross the ocean, and make long voyages. She should be rigged like the English one just cited; so that, by sails alone, she would be able to make a fair passage, reserving her steam for emergencies, and for the peculiar service on which she may be sent. When co-operating with fleets she might receive supplies of fuel from them, and be towed, under ordinary circumstances, when making a passage, by the fastest ship.

We have assumed, then, that our steam-batteries, as it pleases Congress, in its acts providing for their construction, to call them, should have an equal adaptation to act efficiently on the ocean and on our coasts. It would be very easy to show how usefully they might be occupied at the present moment. Not only might they be most advantageously employed in the protection of our revenue, for which

service we should have but one and the same navy that we have for all purposes of protection; but, in connection with our naval stations, they would be perpetually useful in towing our public vessels in and out of port; in the transportation of public stores, and the rapid transfer of seamen from station to station; relieved from the present exposure and delay, and the injurious relaxation of discipline, consequent upon throwing a great number of seamen, with a single officer, on board a private vessel. Several fatal accidents, attended with much loss of life, have been occasioned, in times past, by the existing system. And we are, while writing, called on to deplore the consequences of the terrible accident, on the Boston and Providence rail-road, to a draft of seamen destined for the sloop Boston, and the loss which the service has sustained, by the injury of the active officer in charge of them.

But there are yet other and more important services that could be rendered by this class of vessels, better than by any other. We should, at this very moment, have several steamers of war moving along the the coasts of Texas and Mexico, to protect our extended commerce from the depredations of the belligerents, and from the piracies which will inevitably grow out of the civil war now raging there. Whatever may be the result of the contest, it will leave in the minds of the Mexicans a rankling ill-will; which, if it do not produce open war, will, at any rate, break forth in piracies upon our unarmed merchantmen, attended by sanguinary atrocities towards their crews, suited to the vindictive character of that people. In addition to the necessity of a fleet of steamers on the Mexican coast, two or three should be kept perpetually circumnavigating the West India islands, visiting every key and inlet, and removing from the piratically disposed every hope of impunity. We hope that it will not be long ere we shall be in condition to afford to our commerce in that region, so rich, fertile, and productive, yet so ill-governed, and distracted; so blessed by nature, and so cursed by man—that protection, which can only be effectually rendered by a fleet of well-constructed, well-appointed, and formidable steamers.

X.

REMARKS ON QUARANTINE SYSTEMS.

By Usher Parsons, M. D., formerly Surgeon, U. S. Navy.

[Concluded from last No.]

Are all the Quarantine Restrictions relating to Yellow Fever imposed by city authorities necessary?

I shall now endeavor to show, that so far as relates to the excluding of persons from cities immediately on their arrival from tropical ports, even where yellow fever exists in the vessel, is not necessary—and for the following reasons.

1st. The disease is not contagious.

2d. It is not imported from foreign countries.

3d. Oppressive as existing laws are to personal liberty, experience proves them to be of no avail in preventing the fever in large cities. Each of these subjects deserves consideration.

That yellow fever is not contagious, is an opinion so generally believed, and often asserted by medical men, that it wears the air of a truism, and has become a hackneyed subject for discussion. But by the junior officers of the navy, who read the Naval Magazine, and who are deeply interested in the subject, the grounds for this opinion are not so well understood. They see embarassing laws in force, as against a contagious disease, and yet learn from physicians that the same disease is not contagious. They naturally inquire the cause of their continuance. Obviously it is, that formerly, medical opinion was different, and then sanctioned the laws now in force; and although physicians are taught by experience to change this opinion, yet public sentiment was too strongly impressed to have the doctrine eradicated, and the laws repealed, or, in many cities, even mitigated; and in perhaps none of them is the idea that yellow fever is contagious, entirely excluded. Besides this, there is still here and there an alarmist who is able to sway the minds of the multitude by opposing their fears of danger to the deductions of reason and the light of evidence.

Preparatory to a brief discussion of this question, on the present occasion, I will notice some shades of difference in the creeds of the two parties in controversy; for, there are modifications and limitations of opinion among both contagionists and non-contagionists, that narrow the ground of debate, and almost confound the two together. Chisholm, and some others contend that there are two distinct kinds of yellow fever,—one that is essentially contagious, called the Bulam fever, which was introduced into Grenada in the ship Hanky in 1793, and another which he calls the yellow bilious remittent fever of earlier date, which arises from local causes and is not contagious. Sir James Fellows, Dr. Pym, and some others contend, that yellow fever of a contagious kind is of much earlier origin than 1793, although the latter gentleman calls it the Bulam fever. Others again contend that yellow fever is caused by a contagious poison emanating from persons affected with it, but that it requires a certain febrific local miasm to give it wings,—such a miasm as non-contagionists regard as competent of itself for its production. Others again contend that Bulam fever confers immunity upon the patient against a second attack, which is sufficient to distinguish it from all other fevers. Dr. Pym takes a shrewd method for sustaining this point of doctrine. He first alleges that black vomit is a sure symptom of Bulam fever, and that alleged cases of second and third attack, where this symptom did not exist in the former ones, are bilious remittent. Now, as few, if any, in whom black vomit appears, ever recover, he is safe in stating that such cases confer an immunity against subsequent attacks. I might name many other differences of opinion among contagionists.

But there are differences also on some important points among non-contagionists. Some regard it as a highly aggravated bilious remittent only. Others allege that although the causes of this in a concentrated form are necessary, yet that something specific and unknown must be added, in order to produce epidemic yellow fever. Various conjectures have been offered upon the nature of this supposed agent, some contending that it is a peculiar electrical state

of the atmosphere, others a terrene, and others a meteoric influence. Some regard yellow fever as non-contagious, unless a large number of sick are confined in an ill ventilated place, and believe that then it may acquire the property of reproducing itself.

These last cannot class themselves among non-contagionists, and hence they go under the name of contingent contagionists, and they rank among their numbers many disguished medical men. The Medical Journal, by Johnson, strenuously contends for this doctrine. Several of the twenty-four eminent physicians, applied to for advice by the British Parliament, coincide in the same opinion. Even Dr. Rush admitted that it is occasionally propagated in this way. Discrediting, however, the climination of contagion, he supposed that, in such cases, it originates in an exhalation from the excretions of the patient. *Philad. Med. Journal. Nov.* 1834.

The term contingent contagionist is, however, applied to another class of theorists quite different, and to which I have already alluded. Johnson in his work on hot climates, after naming several distinguished contagionists, gives another composed of such as maintain that a certain noxious or febrific state of the air must exist, in order for the specific contagious principles to take effect; and this state is the one which a rapid decomposition of organized bodies, aided by an elevated temperature and humidity would produce;—in other words, the same condition of things which most non-contagionists consider as capable of generating yellow fever, without the aid of any specific virus. But these, it will be perceived, are as truly contagionists as any can be, because they believe the specific cause of yellow fever to be always imported, and never of domestic origin; whilst the former class of contingent contagionists, and the one to which the term exclusively belongs, regard the disease as domestic, and as non-contagious in its origin. Thus it appears that the line of distinction between contagionists and non-contagionists is not so broad and definite as the terms would seem to imply; for some of the controvertists approach as near in opinion, as the two painters did, who disputed fiercely

whether a color in question was a greenish blue, or a bluish green. But as quarantine regulations spring from a belief in the contagious nature of yellow fever, it is necessary that the doctrine be examined, without reference to peculiar views of individuals or subdivision of parties. I will therefore exhibit some of the evidence on which contagionists chiefly rely, and endeavor to show its utter fallacy.

1. "*There is an uniformity in the prevailing epidemic, it is yellow fever, and this alone that reigns.*" This proof of contagion is more specious than sound; the same fact is observable when other epidemics prevail that are unequivocally non-contagious. Whenever the influenza prevails epidemically, it is this, and this alone, that succeeds to a suddenly checked perspiration. There probably is, in both cases, a peculiar constitution of the atmosphere, suited to produce a particular disease rather than another.

2. "*It will begin in a family and destroy one after another of its inmates, and attack house after house in a street, and what so likely is there, as that it is communicated from one person to another.*" Dr. McLean facetiously remarks, in answer to this, that when rain falls and wets many persons exposed to it, as well might it be said of them that they wet each other, as to say of many persons who are alike exposed to the local cause of yellow fever and take it, that they communicate it to each other.

3. "*There are well attested cases of its being communicated from one ship to another in the mid ocean.*" This is an imposing fact, much relied on by contagionists, and seems to settle the question in their favor. But let us examine it. It is admitted, on all hands, that new comers to a port, where yellow fever prevails, suffer more certainly and severely from it than those do who are acclimated. It is equally susceptible of proof that this fever has broken out destructively in vessels sailing from a perfectly healthy port. The Frigate General Green sailed from the healthy town of Newport for the West Indies with a perfectly healthy crew, and before she anchored, or had any communication with any other ship or shore, a large number of her men were swept off with

yellow fever. I shall have occasion to adduce other similar instances hereafter, showing that foul ballast, neglected hold, and vegetable putrefaction, are adequate to produce yellow fever in vessels in tropical seas. Now let us suppose that a ship thus affected is boarded by persons coming direct from a cooler latitude, and who are, consequently, not acclimated to the heat, nor to the noxious air on board the filthy vessel—Is it necessary if they are attacked with fever to suppose contagion in the case? If yellow fever was generated in the General Green, and swept off her men, would it not be still more likely to attack persons who might happen to board her with their constitutions not acclimated?

4. "*When yellow fever breaks out in any part of a city if produced by local causes as decomposing organic matter, it ought to subside when all such alleged causes are removed; yet experience proves that scavengers with their whole array of cleansing utensils avail nothing in preventing it. It will continue and spread to all within the vicinity of its first location. There is no safety but in flight, until a frost comes.*' This is a remarkable fact, and one which I do not find accounted for. Contagionists argue that it proves the cause of the fever not to be atmospheric, and therefore, that it must be propagated from person to person. Yet if it be so, why cannot the infected communicate the disease to others in other places, even but a mile or two from the infected district? And why is it that the the removal of all persons from the district does not render the air in it less dangerous to new visitors?

But these brief replies to the evidence adduced by contagionists is but a small part of the proofs that may be brought against their doctrine, for I may add, that all the yellow fever hospitals that have been established in the United States, have, I believe, without exception, proved safe places for persons in health to visit; nor is the fever conveyed to other cities, nor to other portions of the same city, and communicated to others. Dr. Townsend a distinguished member of the board of health of New-York, and a strenuous contagionist, states that in 1822, there were 104 persons affected with yellow fever in the uninfected part of the city,

65 of whom resided there and merely worked in the infected district, some of whom communicated the disease to others, although some of them died in close and ill-ventilated apartments; and he confesses himself unable to account for it on the supposition that the fever is contagious. Nor is it conveyed from infected districts to ships. For although persons may die on board who have taken it in such districts, they do not communicate it to their shipmates. Nor can it be communicated out of the infected district to a healthy person by inoculation, with the saliva, serum, or matter ejected from the stomach of the diseased, nor by swallowing such matter. Furthermore, the disease is confined to a particular season of the year, when great heat prevails, and appears under circumstances that are known to produce a vitiated state of the atmosphere,—whereas smallpox, and other contagious diseases, prevail and are communicable at every season of the year. Oftentimes it is connected with some universal distemperature of the air. In 1793 and 95, and 1819, it broke out in nearly all the large cities in the union. It may visit the same person several times, differing widely from smallpox and other diseases truly contagious; yet it resembles bilious remittent fever, which physicians agree in referring solely to vegetable decomposition.

Lastly, it being proved that yellow fever is, in many cases, generated by local causes in ships, as instanced in the General Greene, that sailed from a healthy port,—and from many other cases that will be adduced; and on shore, as specified in the first number of the Naval Magazine; places not only where no contagion could be traced, but where a vitiated atmosphere evidently did exist, that was referable to decomposing vegetables; it would seem unphilosophical to refer the fever to more than one cause, and the local cause being proved, consequently, the idea of contagion should without better evidence, be discarded.

In conclusion, although it may not seem fair when a subject is discussed upon its own merits, to encumber it with the weight of opinions already formed upon either side; yet when there is an immense preponderance of authority, and, that too of the enlightened and experienced, it is entitled to

consideration; and this throughout the United States weighs in favor of non-contagion and of the local origin of yellow fever, as nearly fifty to one. Dr. Chervin of France, who visited all the West India islands, the coast of South America, and nearly every city in the Union, and with obtained written opinions from those who were conversant in the disease, states that out of five hundred which he had thus received, only twenty-eight were on the side of contagion.

Here it may be asked how so many classes of contagionists could be formed, as are represented on a former page, when the whole number of them is so very small. In answer, I repeat, that formerly contagionists were numerous, even more so than their opponents; and in the south of Europe, where the several classes I mentioned mostly resided, they are so even now, although they are loosing ground daily.

Secondly, *Yellow fever is not imported from foreign countries.* In opposition to this opinion it has been urged, that the disease appears in those parts only that have intercourse with the West Indies. This fact was urged very strenuously by Dr. Palloui of Leghorn, when interrogated by the board of health of Marseilles, respecting the quarantine laws of the former city, as a reason for their rigid enforcement. But the fact is, that nearly all ports have intercourse with those islands, whilst not one in twenty of them are ever visited by the disease, and in New England it appears in no port oftener than once in ten years. In the State of Maine, which receives more vessels into her ports from the West Indies than any other State, yellow fever has never appeared more than once or twice.

2. "It has often been traced to vessels coming from the West Indies. In 1819 the Ten Brothers arrived at the wharf in Boston from the West Indies, and several of her crew were attacked within twenty-four hours. Several persons who visited the ship took the disease. [*N. American Review.*] In 1793 the ship Deborah gave rise to the yellow fever, and also the sloop Mary in 1798 in Philadelphia. The cases which prevailed at the Wallabout in 1804, and at the New-York Lazaretto in 1824, were traced to vessels recently arrived from the West Indies."

But unfortunately for the deductions of contagionists from the above facts, it has more than once happened that vessels sailing from a healthy port in the United States, have generated yellow fever on their way to the West Indies, as instanced in the General Greene. I will here introduce some parallel cases. The ship Columbia sailed from the healthy town of Providence in May, and arrived at Marseilles in August. She had no disease during the voyage, nor at quarantine, which lasted fifteen days; but at the close of this period, the second and third officer and four seamen took the yellow fever and died,—three of them in the city and in different streets, yet neither their attendants nor others suffered, and the city was generally healthy.

The Ten Brothers arrived at the quarantine ground from the coast of Africa, on the 26th of July, and on the 1st of August came up to Boston. In this time she underwent a common examination at the quarantine ground, but it does not appear that the lower hold was looked into, and after her cargo was started at the wharf, the yellow fever broke out among those who went on board; and within twenty-four hours after she reached the wharf, several of her crew were attacked. It was afterwards found that the instertices between her timbers were filled with corn and coffee in the most putrid state.—*N. American Review.*

Similar to the foregoing was the case of the ship Deborah, to which the yellow fever in Philadelphia was traced in 1793. "The fever of 1799 in Philadelphia was also proved to have originated in the first instance from the sloop Mary, but under somewhat different circumstances, although still from the same causes. In this case, the vessel landed her cargo perfectly sound, nor were any of her crew sick during the voyage; and her cargo being discharged, she was washed out and her hatches closed. But there still remained a quantity of coffee in her hold, which, exposed as she was at the wharf to a high temperature for about three weeks, ran into putrefaction and evolved an immense quantity of noxious vapor, which became so offensive that she was ordered to be ventilated and cleansed. The consequence of the escape and diffusion of these exhalations was, that many

persons in the neighborhood were seized with symptoms of yellow fever."

Two cases are also given by Dr. Musgrave, a distinguished British surgeon, in Johnson's Medical Journal, March 1834, p. 980. Two ships of war, the Dasher and Pyramus, arrived with troops in the West Indies. The yellow fever broke out on board, but did not extend to the shore. The passengers were removed to barracks, tents, &c., and the ship was unloaded, and fumigated, and washed, and still the fever continued. The ceiling or limber boards, covering the lower timbers, were then raised, and one of them contained two cart loads of filth, and the other a large mass of putrid matter. It seems that the tar in the ship's seams had liquified, and run between the timbers, and closed the limber holes through which the water usually runs to the pump wells. So great was the stench which arose from the mass, that nearly all in the hold were nearly destroyed upon the spot, and many others immediately sickened and died of the yellow fever. Blacks from the shore were employed to remove the filth, after which the ship was thoroughly washed, and white-washed, and no more cases of fever occurred.

I might relate several other well authenticated cases to show the danger of admitting vessels from tropical climes, immediately to the wharves of a city; but the foregoing are enough to prove, that the most prolific source of yellow fever is filth, putrid vegetables, &c. accumulated under the ceilings between the timbers of vessels, acted upon by long continued heat, aided, perhaps, by elevated temperature of the water in the gulf stream, for it is a known fact that vessels charged with introducing it have always been leaky.

These cases are sufficient to show that yellow fever when imported, has been generated in the ship, and not brought in the form of contagion from foreign ports. And although the ship's company may, from gradual acclimation and partly because the gasses are pent up in the hold, escape during the voyage; yet, when the hatches on her arrival are raised, and the cargo started, the hold may send forth deleterious effluvia, as in the cases referred to, that will cause yellow fever, without the aid of a specific poison.

Yet, because, in a few instances, yellow fever has been generated in vessels on their homeward passage, the popular cry has been, foreign contagion. Overlooking the facts that it never appears in our cities, unless preceded by long and uninterrupted heat of 79 or 80 degrees and upwards, that a general distemperature of the air exists at the time throughout the country, that it has in several cases been traced to damaged coffee or other putrid matter;—overlooking these, and all other proofs of domestic origin, a few dogmatists have continued to regard the disease of foreign growth, although, in many of the alleged instances, there has been no evidence whatever of its importation, and in most of them the time and manner of importation have been incomplete and contradictory, and in no instance has it been traced to a foreign port.

Thirdly. *Quarantine restrictions upon persons, are ineffectual in preventing yellow fever.*

Although rigidly enforced during the last half century, more has been heard of imported contagion and more lives have been lost by yellow fever, than in all previous time, since the country was settled. In perfect keeping with this has been the operation of sanitary laws, relating to intercourse between large cities by land. In 1819, yellow fever existed in nearly all of them, and their conduct towards each other shows, not only the futility, but the positive absurdity of such embarrassing restrictions, as they saw fit to impose. Thus Philadelphia, with cases of the fever existing within her walls, prohibited all intercourse with Baltimore, refused shelter to those who were seeking a refuge from the disease, and even permission to pass through, to all who had visited any part of the city.

New-York established a rigid quarantine against all the large cities, whilst she contained a greater number of cases, than existed in either of them. And because "a gentleman from Boston, after spending seventeen days at quarantine, in preference to remaining longer under guardianship of her health officers, chose to return to the place which was the source of their fears, he was advertised at New-York, and a reward offered for his apprehension, as though he was a felon.

American ships were brought to, opposite the lazaretto of New-York, and obliged to submit to visits of officers fresh from exposure to the disease, lest, peradventure, they had brought the plague from Liverpool. Even New-Orleans partook of the panic, lest the yellow fever should be imported from Boston." [*N. American Review.*] Thus each city barred its gates against an enemy that was already dealing out destruction within its own walls. Such unnecessary and vexatious proceedings should be dispensed with. They are the offspring of a belief in contagion, as a cause of yellow fever, and are practised after such a belief is proved to be unsupported by evidence. For I have shown, from undoubted facts, and the plainest deductions of reason, as well as the concurring voice of the profession generally, that yellow fever is not contagious, is not of foreign origin—and if it were contagious and of foreign origin, that quarantine laws, and, especially, all that are designed to prevent the landing of persons from a sickly port, or from a sickly ship, or their admission from a sickly city, are entirely unavailing in preventing the appearance of yellow fever.

But in respect to the direct admission to city wharves of vessels having yellow fever on board,—or vessels from tropical climates, or even from temperate ones during the heat of summer,—the instances I have cited show, that it would be fraught with danger. The Ten Brothers, Mary, Dasher, and Pyramus, demonstrate that filth and decomposing matter may be lodged between the timbers, sufficient to produce yellow fever,—that hot weather may liquify the tar in the ship's seams, which, flowing down, may cause obstructions to the passage of water to the pump wells, and becoming stagnant and putrid, may produce yellow fever in persons immediately exposed to it. And although such fever we still maintain is not contagious, nor of foreign origin, (unless the ship's hold may be called foreign,) yet all such vessels should certainly be excluded from wharves, and their cargoes, especially if they consist of perishable articles, landed at an *entrepot* distant from the city. Nor is this all that should be done. When heat has existed in a city for a long succession of days, of 79 degrees and upwards,

which is one of the requisites for producing yellow fever, all vessels lying at wharves should be thoroughly examined by health officers, and if not perfectly clean, should be anchored at a distance from the wharves.

It is gratifying to learn that public opinion is becoming rectified in respect to the contagiousness of yellow fever, and the necessity of burthensome restrictions upon personal liberty. Already has the city of Boston lessened the rigor of its laws, and New-York, by enlarging the discretionary power of her health officers, has, within the present year, followed her example; and ere long, it is probable, we shall see public attention directed exclusively to filth in the holds of ships, and decomposing vegetable matter in and about cities, as the cause of this pestilence.

RECOLLECTIONS OF BROOKLYN AND NEW-YORK, IN 1776.

From a Note Book of Gen. Jeremiah Johnson, of the Wallabout, L. I.

NO. I.

* * * * *

"After the commencement of hostilities, in 1776, New-York, being situated near the centre of the colonial seaboard and readily accessible from sea, was selected by the British, as a principal point for future operations.

"With this view, a first division of their army arrived at Staten Island, in the latter end of June of that year, followed, about the middle of July, by the grand armament under Lord Howe, consisting of six ships-of-the-line, thirty frigates, with smaller armed vessels, and a great number of

transports, victuallers, and ships with ordinance. The fleet, as seen in the distance, presented the appearance of a forest.

"An eventful period had now arrived, and the long and strong tug of war was to be commenced in earnest. The British bard has said—

> 'There is a tide in the affairs of men,
> Which, taken at the flood, leads on to fortune,'

and we would remark, that there is a Providence on high, which directs the affairs of nations, not less than those of men, leading them to glory or to shame. That Providence had raised up, and prepared, a band of patriotic statesmen and heroic warriors to meet the crisis of the times, and to guide the opening destinies of our country to honor and fame—men who, with Cato, could exclaim, 'Oh! that there were a glass in my breast, that every one might behold the pure motives of my heart!'—men by whose wisdom, bravery and virtue, was accomplished that which God willed—that America should be free!

"The Americans, anticipating the invasion of Long Island, had fortified Brooklyn, before the arrival of the British at Staten Island. A line of intrenchment was formed from a ditch, near the late Toll House of the Bridge Company, at the Navy Yard, to Fort Green, then called Fort Putnam, and from thence to 'Freeck's Millpond.' A strong work was erected on the lands of Johannis Debevoice, and of Van-Brunt; a redoubt was thrown up on Boemus' Hill, opposite Brower's Mill, and another on the land of John Johnson, west of Fort Green. Ponkiesberg, now Fort Swift, was fortified; and a fort built on the land of Mr. Hicks, on Brooklyn Heights. Such were the defences of Brooklyn in 1776, while *chevaux de frise* were sunk in the Battery Channel of the East River—the Buttermilk Channel being left open.

"The troops of both divisions of the British army were landed on Staten Island, after their arrival in the bay, to recruit their strength and prepare for conflict. It was not till the middle of August, that a first landing on Long Island was made, by them, at New Utrecht. They, there, mustered

eighteen thousand effective men; then marched to Flatbush, and scoured the country, on the south side of the hills, as far as Hempstead. Every whig found was dragged by them to New Utrecht, and imprisoned in the church. General Woodhull, a gallant officer of the American army, who had been sent out on special duty, was seized by a party of dragoons near Jamaica. After surrendering his sword to the commanding officer, he was barbarously wounded by him with it, and died from the injury, in the church of New Utrecht to which he was taken. A Mrs. Lott, also, was wantonly shot, while sitting in her window at Flatlands.

"After the landing of the British on Long Island, the Americans obstructed the passes between Brooklyn and Flatbush, and annoyed the invaders from the hills. They, also, burned three houses in Flatbush, near the woods.

"On the 27th of August, the battle of Gowanus was fought. The position chosen by the Americans, in making the defence, was unfortunate; on the other hand, the attack was well planned and fatally executed. It was made in three divisions. The first, composed of Hessians, marched from the Narrows, and commenced the fight; the second approached from 'Howards,' the half-way house by the way of Bedford, and occupied the ground between the Flatbush and Jamaica roads; and the third marched by Martence's Lane. The position of the second division, effectually, prevented the Americans from retreating within their line of defence; and, in falling back upon the Gowanus meadows, and attempting to cross the creek, many were drowned. The Americans, after a severe contest, were defeated. Their loss is not accurately known: it is stated, by the British, to have been between three and four thousand.*

* Among the brave officers who fell at this battle, was Col. Philip Johnston of Sidney, N. J. A journal of the day, in publishing his death, contains the following notice of the conduct of this officer, in the conflict. "In the action of Long Island, Col. Johnston, of General Sullivan's division, behaved with remarkable intrepidity and heroism. By the well directed fire of his regiment, the enemy were several times repulsed, and lanes made through them, till he received a ball in the breast, which put

"We have never seen a return of the loss of the British, at the battle of Gowanus. But, we know, there were many riflemen and sharp shooters, in Sterling's division, by whom, we doubt not, that many a 'bloody back,' (a name given to the soldiers by the English seamen,) and many a Hessian were laid low. It has been stated, that two thousand of the British forces were slain.

"On the night of the 28th, the British threw up a redoubt on the heights, east of Fort Green, from which they opened a fire upon the fort; and, on the 29th, made demonstrations of an attack on the lines. A strong column menaced this, on the land of George Powers. The Americans were here prepared to receive them; and orders issued to the men* to reserve their fire, till they could 'see the eyes of the enemy.' A few of the British officers reconnoitered the position, and one, coming near, was shot by William Van Cotts, of Bushwick. The same afternoon, Captain Rutgers, brother of the late Col. Rutgers of New-York, fell.

"On the ensuing night, the 29th—30th of August, General Washington, aware of the insecurity of the position of the American forces, made his well-known retreat from Brooklyn. It was accomplished so skilfully, and so successfully, that, the morning of the 30th being foggy, it was 8 o'clock, before the British discovered that the defences before them were without an occupant.

"The defeat of Gowanus led to the evacuation of Brooklyn—an event which, thus successfully achieved, in the providence of God, as we believe, saved the army and the country."†

an end to the life of as gallant an officer as ever commanded a battalion. General Sullivan, who was close by him when he fell, says, 'that no officer could have behaved with greater firmness and bravery throughout the action.' He sacrificed his life in defence of the invaded liberties of his country, and let his memory be dear to every American patriot, as long as the spirit, which led him to the field, shall actuate the sons of freedom!"

* The father of the writer was present.

† Just as this article, from the Note Book of General Johnson, was going to press, we received the following communication, from an un-

"If there was an error committed, by the Americans, in the indefensible position taken by them, at Brooklyn, a much greater oversight is chargeable to Gen. Howe, in not, more

known source, through a distant post-office. The gentleman to whom we are indebted for it, could not have known how peculiarly well-timed its arrival has proved, in reference to the subject of the pages now publishing, nor have selected a more suitable point for its insertion, in our Magazine.—EDITOR.

To the Editor of the Naval Magazine.

The following anecdote was communicated to me, about sixteen years ago, by a person of respectability, a commissary in the British army during the Revolution. It was related to him by Mrs. Rapelye herself, the principal agent in it. It seems to me, not to be inappropriate to the pages of a magazine, published under the auspices of a society, composed of those upon whom the country relies, in a great degree, for its defence; and whose meetings are held, near the spot, where the incidents related took place. My informant was satisfied of the veracity of Mrs. Rapelye; and I have no doubt of the truth of the circumstances.

Yours, &c.

J. W. S.

"Within the American lines at Brooklyn, during the Revolution, lived a Mr. Rapelye, who, being suspected of disaffection to the American cause, had been sent, by the whigs, to the interior of New-Jersey. His wife remained in possession of the house, and probably felt more hostile to the party who had deprived her of her husband, than she would have done had he been permitted to remain at home.

"The house was near the shore, whence General Washington embarked, in his memorable retreat from Long Island. Mrs. Rapelye obtained early knowledge of this movement, the night it took place, and herself saw the first detachment push off. Thinking it a good opportunity to be revenged upon those who, she believed, had deeply injured her family, she resolved to inform the British of what was taking place among their enemies. She had no one to send, however, with the information, but a black servant; and, accordingly, dispatched him, with orders, to communicate the intelligence to the first British officer he could find.

"The black succeeded in passing the American sentinels, and made his way to the neighboring camp; but, unluckily for the success of his mission, came to a part of the encampment where the Germans were stationed, and was stopped by a soldier who could not understand English, and to whom he, consequently, could not communicate the message.

fully, availing himself of the advantage it afforded the assailants. There were eighteen thousand men under his command—the flower of the British and German troops. The force of General Washington, at Brooklyn, in August, consisted of ten thousand, five hundred and fourteen men*—reduced, by the battle of Gowanus, to six thousand, most of whom were militia. Lord Howe had six ships-of-the-line and thirty frigates in the bay; Buttermilk Channel was open. The frigates could have passed through, and anchored in the East River, between Brooklyn and the present Navy Yard, without difficulty; there was no fortress to annoy them, except a redoubt on Corlear's Hook. Had Lord Howe thus passed up the channel, and landed two or three thousand troops within the lines at Brooklyn, while an attack was, at the same time, made in front of them, what, I would ask, could, under such circumstances, have saved the American army? General Washington saw his critical situation, and therefore abandoned Brooklyn.

After the retreat of the Americans from Brooklyn, the British, with their infamous allies the tories—by whom we mean, not the honest men opposed, in principle, to the war, known by the name of royalists, but a set of thieves, robbers, and plunderers, who attached themselves to the same party—had uncontrolled sway on Long Island; and scenes ensued that beggar description. Almost all the whigs were with the American camp; their wives and children, and the aged men, only, of their number were at their homes, exposed to insult and oppression, while their dwellings were given up to indiscriminate plunder. The negroes of the island were all tories, and pointed out to the enemy, the places in which goods and plate had been concealed. The Hessians were permitted to plunder, freely, for themselves and officers;

He was committed, therefore, to the guard, as a suspicious person, and kept until morning, when an officer, visiting the post, examined him, and was informed of what had taken place, during the night. The alarm was immediately given; but it was too late—Washington and his troops were all safely landed, on the opposite shore."

* See an official return in Washington's Letters, Vol. 3, p. 403.

and, it is said, that General De Hiester, when he left America, in 1777, took a cargo of plundered property with him, to Germany.

"Every whig, who could be found, was made captive, and confined, with the prisoners taken at Gowanus, in the churches of New-Utrecht and Flatland; while the royalists and tories were summoned to head quarters to be registered; after which they were directed, severally, to wear a red badge in their hats for protection, and, as a token of loyalty—a mark mounted by every man, negro, and boy in the country, and even by some of the most loyal of the women. Red rags were in such requisition, that, in some instances, the flannels of the women were shreded, to provide the loyal token! This *badged* gentry, notwithstanding, received only the contempt of the British officers; and, in less than two months, the tokens were consigned to the flames.

"After the Americans had left Brooklyn, the British made preparations, for taking possession of New-York. Their plan, for accomplishing this, was well laid. One frigate, the "Rose," passed through Buttermilk Channel, on the evening of the 15th of September, and anchored in the East River, opposite Buswick Creek, near the shore. The next day, a small breast-work was thrown up, by the Americans, on Stuyvesant's Point, opposite the ship. By 5 o'clock P. M. two heavy guns had here been mounted, from which nineteen shots were fired, eighteen of which hulled the frigate. The first ball alone failed in this: it struck the railing, killing a cow, just delivered on board, by Mr. Polhemus, who was on the deck, and from whom we have the fact.

"The frigate returned the fire, but without effect, her shot falling short of the Point. Night coming on, the firing on both sides ceased; and, under cover of the darkness, the frigate changed her position, and anchored between Blackwell's Island and Long Island, under the protection of an intervening point of land.

"On the evening of the 16th, the "Phœnix" and the "Duchess of Gordon" passed up the channel, to join the "Rose," followed by a great number of flat-boats, for the transportation of the troops. The next morning, all three

frigates anchored opposite Kip's Bay, near the New-York shore, and opened a fire to cover a landing place. About 8 o'clock, A. M., the troops embarked from Long Island, at high water, and crossed in fine style. As the boats passed the ships, the firing ceased; and the troops landed without molestation. We witnessed the whole from the Bushwick shore, to which many had been attracted, by the firing of the ships.

"After the troops had landed, positions, across the island, were immediately occupied, in the expectation of inclosing the Americans in the city. But, they were not there—'In vain is the net of the fowler spread in the sight of any bird.' —They were to be met in another place.

"After the possession of New-York, by the British, all the American prisoners were removed, from New-Utrecht and Flatbush in King's county, to the city, and confined in the Dutch and Presbyterian churches, in the sugar-houses, and in the jail, then called the *Provost*. These were all crowded with the captives, many—very many—of whom were starved on a scanty and miserable allowance. Both the bread and water, furnished them, were bad, and insufficient in quantity. Disease raged among them, and the sick had no attendance, except that of a fellow captive. The well, the diseased, the dying, and the dead, were all crowded together—the dead being carried out, only in the morning and in the evening, when they were thrown in a heap at the prison doors, to be dragged in dead carts to the pits dug for them!

"When death had thus removed thousands, other prisoners were brought to supply their places, to suffer, starve, and die, as had their brethren before them. Death, alike relieved the captive—and the British from his support! A few, however, who then suffered, survived to bear their testimony to British cruelty.

"Woman, generous hearted woman!—she who lights and cheers the path of man through life, and forsakes him not till the clods of the valley cover him, and whose tears and blessing, even then, pass with him into the world of spirits—she was the chief comfort and solace of the prisoner, in his

adversity and sorrow. Many a one of these, in New-York at that time, went, day after day, to the prisons, with food for their husbands, their sons, their fathers, and their friends. Those who had much, took much, and those who had little, took all that was left, after a scanty allowance for their children at home. Their kettles and baskets were examined, at the prison doors, and, then, passed in to those, for whom they were designed. Although, often, scouted at by the guards, and sometimes robbed of the little they had brought, they were not deterred from returning the next day; but, with prayerful anxiety and hope for better treatment from the relief on duty, again presented themselves with their offerings of charity and love. We have known more than one captive who, by these supplies, escaped death.

"A Captain Cunningham was Provost Marshal of the old jail—a wretch who delighted in cruelty. He refused the prisoners a supply of water sufficient to quench their thirst; and a gentleman of Bushwick—who died two years since—imprisoned at the time, stated, that, having procured a bottle, they lowered it, by a line, through the gratings of a window on the street, calling upon those, passing by, to fill it with water. Many paid no regard to their entreaties; but, now and then, some one of better feelings would fill the bottle, which, when drawn up, would serve only to wet the lips of a portion of the sufferers.

"Many of the prisoners were induced to enlist to save their lives; officers attended at the prison, daily, for this purpose. Many of Lord Rawdon's regiment were Irishmen enlisted in prison; and Buskirk's, Hewlet's, Fanning's, and Symcoe's corps were mostly composed of refugees. There were, also, other skeleton corps raised in America—Agnew's, Bayard's, Emerick's, McPherson's, Ritzma's, &c.*

"The cruel treatment of the prisoners was unmitigated, till after the capture of Burgoyne. Till then, both officers and men were imprisoned together; but, in November, 1777, the officers were parolled, in the four southern towns of

* See Washington's letter to this traitor. Vol. 3, p. 472, of the "Washington Papers."

King's county, and a few at the Wallabout and Cripplebush.

"After the surrender of Burgoyne, and the capture of the Hessians at Trenton, the British were glad to exchange prisoners; and, in 1778, most of the prisoners who had escaped death were exchanged, and the churches were emptied. The *Provost* remained the principal prison. Cunningham continued its Marshal; nor did he leave, with his mulatto hangman, till the 25th of November, 1783. He was an Irishman, and more cruel to those of his own country, than to the Americans. When new prisoners were brought in, he would select the Irish, if there were any in the number, and confine them by themselves, saying, he had 'a hotter place for traitors, than for the Yankee rebels!'

"This villain was himself hanged, after the revolution, for forgery, at Halifax!

"It was the Dutch and Presbyterian churches, only, that were desecrated, during the war. The Episcopalian churches were held sacred, most of the Episcopal clergy—the late Bishop Provost excepted—being royalists. The Dutch and Presbyterian ministers, on the contrary, generally were whigs. With the spirit of patriotism and liberty, their exhortation to their flocks, at the commencement of hostilities, had been, 'To your tents, O Israel!' and, for this cause, their places of worship, at New-Utrecht and in New-York, were made desolate during the war. The voice of the preacher and the psalmist were not heard within them; nor was there, there, the voice of prayer—except as it mingled itself, with the sighing of the prisoner, and with the groans of the dying and the oppressed!"

* * * * * *

ON THE UTILITY OF NUMISMATICS.

CHIEFLY FROM THE ITALIAN OF CARONNI.

By a member of the Naval Lyceum.

THREE centuries ago, when the arts and sciences, after a long night of repose, began to revive, the attention of the learned became fixed on the subject of ancient Coins; and the flattering advantages expected from them were fully realized.

They were found to illustrate and confirm chronology, history, geography, and mythology; and the knowledge of languages, customs, and usages, was extended and enriched by the assistance which they afforded.

And truly what more irrefragable proof could be adduced to confirm a fact in ancient history, than the circumstance of its being expressed upon an ancient Greek or Roman Coin?

The testimony of ancient Coins was preferred, therefore, to that of the best classics; and their authority is decisive, since the proofs they exhibit are contemporaneous, and they are moreover free from the objection which is common to all the ancient writers, viz. that of being badly read, and worse transcribed, by successive copyists or amanuenses.

They were also the voice of the entire nation by whose authority they were struck, and were held in public and constant repute: accordingly the series of Roman Coins presents the best suite of documents of the Roman history that the art of man could have invented.

Iconology is entirely the work of numismatics, since it is almost solely on Coins and Medals that the name accompanies the image of the personage represented.

It must be highly gratifying to the curious, to be able to contemplate the exact physiognomy of the so much celebrated conquerors and princes of antiquity; of Alexander the Great, for example, among the Greeks; and among the Ro-

mans, of Trajan, Hadrian, and the Antonines, illustrious for their virtues; and, *vice versa*, of those who disgraced their names by base actions, such as Tiberius, Caligula, Nero, Caracalla, and others.

It is on Coins that we find the modes of dress adopted by the ancients, female as well as male; the titles bestowed on commanders by the senate, such as Germanicus, Parthicus, Brittannicus, &c. after the reduction of the kingdoms or provinces, whence the titles are taken; the forms of temples and of the vessels and instruments used in sacrifice, and various other notices which it is unnecessary here to detail.

The fine arts also find here extraordinary profit in the exact design and rare beauty of Coins, on account of which they are held by every one in the highest estimation.

In fine, the money of the ancients affords the best idea of the degrees to which painting and sculpture had arrived in the different epochs and regions in which they were cultivated, and are speaking witnesses of what ancient writers have scarcely left us any notice. History relates, that before the time of Phidias, the position and air of figures were "mannered" and forced, the bones and muscles appeared crude, and the design consequently was hard and rough; and though it was on the whole just, it indicated a genius, at that time, uncultivated. Phidias and his contemporaries had approached much nearer to nature, but their productions were still too dry and destitute of grace, until Praxitiles, Apelles, and Lysippus, cultivated nature in all her elegance, and advanced the fine arts to perfection.

In the numismatic world, *that* was truly the golden age, which commenced about the time of Philip the Second, King of Macedon, made progress during the reign of Alexander the Great, his son, and continued for some time under his successors.

To that which history relates of those times, Coins bear ocular attestation, and that not in the gross, but they demonstrate to us in detail and gradation, the alterations and improvements in taste, whether of republics or of insulated princes; since there remains in our hands an uninterrupted

series of Coins, of the greatest part of them, from their remotest antiquity to their final decay. Moreover, history affords us but little information of the actual state of the arts in various countries of renown, such as Magna Græcia, Sicily, &c.; and there would seem to have been a wish to conceal from us the idea of the truly good taste in the arts, possessed by certain other countries, as Bœotia, Bithynia, &c. Numismatics, however, proves to us, by monuments which exist, that the arts must have flourished in their highest sublimity in Magna Græcia, and Sicily, since the most common Coins, which were in daily use in those regions, exhibit the evidence of extraordinary beauty; and a medal of Alexander, King of Epirus, supposed to have been struck in Magna Græcia, on the occasion of having received assistance from him, is of miraculous workmanship. It proves that Bœotia, Bithynia, &c. might justly boast of the idea of the beautiful, as well as places in higher repute. It proves that good taste reigned, not only in the great cities of Greece, where it was favored by luxury, but that it extended itself into every angle of Grecian territory, even to populations with whose names we are scarcely acquainted. How ignoble, for instance, in history, is Sybritia, one of the most obscure cities in the Island of Crete: yet her Coins vie with the most elegant of Greece. It proves, in fine, that Greek was Greek every where; that the Grecian taste for the beautiful was maintained in every climate, even among barbarous nations, and was reproduced by their latest posterity.

At a remote period a portion of the inhabitants of Phocæa, in Ionia, emigrated to Gaul, built the city of Marseilles, and permanently established themselves in the midst of barbarians, and, after the lapse of ages, produced Coins of the perfect Grecian stamp.

The Cyrenæans of Africa, of Lacedemonian origin, from a country in which the arts did not prosper, coined money, after ages of residence in the country of their adoption, in the most perfect style.

Alexander the Great, after he had conquered Bactriana, left there a colony of Macedonians. Who would have be-

lieved that two hundred years afterwards, though in a country bordering on India, and totally dismembered from the Grecian community, they would have given us Coins exhibiting so much of the Grecian taste as we find them to possess?

After the Romans had subjected Greece to their power, and by gradually depriving the provinces of every thing Greek, and carrying their treasures to Rome, had abandoned the Greek artists, to remain in their country, without protection and without occupation, Greece soon visibly sunk into the most deplorable barbarity. It is almost impossible to believe, when we view their miserable succeeding Coins, that those struck in the times of the Roman emperors, are the production of those favored cities, in which a taste and passion for the beautiful had reigned. The artists passed to Rome, where riches and luxury established a solid and permanent seat for the arts. While Rome flourished and maintained her vigor, her Coins were of exquisite elegance. This period extended from the latter times of the republic to the reign of the Emperor Commodus; after which the Roman power began strangely to decline, until the empire having become at length totally overturned, was subverted by the barbarians. As this happened by degrees, so also gradually disappeared the art of coining, until under the last emperors, especially under the Byzantine, the coinage was reduced to the lowest grade of barbarism. Either I am much deceived, or the designs of some of them exhibit not more intelligence, than is shown by children in their grotesque figures scribbled with charcoal on walls.

But what better could be expected in that age, when the Bulgarians, Saracens, and other foreign aggressors, had penetrated into the heart of the monarchy, which had become paralyzed, while the imbecile monarchs thought they were sufficiently engaged in defending themselves, while occupied in concerting processions, and in busying themselves about questions of theology, and intermeddling in affairs of religion, altogether unsuitable to their condition. Hence it is seen that the arts and sciences constantly prospered or declined, as the State flourished or degenerated.

It may not be inappropriate here to remark, that the Roman Imperial Coins, notwithstanding the exquisite workmanship, and amazing beauty of some of the Grecian, deservedly hold the first rank in the science of numismatics, not only by their argument, but also by their admirable diversity, and the long tract of time through which they extend. The argument, representing the greatest Monarchs that have figured on the theatre of the universe, naturally awakens in the mind elevated sentiments: their number is such as might be expected from a power of such vast extent; and their variety as multiform as could be conceived by the imagination of princes, who in their enterprizes aspired to renown, not only within the Roman dominions, but also among foreign and distant nations. It is particularly worthy to excite our wonder, when we take into view the long series of ages, through which coins of the Roman Emperors, continued to be struck; since, from the 48th year before Christ, in which Julius Cæsar, victorious at Pharsalia, laid the foundation of the monarchy, to the capture of Constantinople by Mahommed II. in 1453, the existence of the Roman Empire comprises a period of no less than 1500 years through which its coins continued to be circulated in an almost uninterrupted course.

It therefore follows, as it must be allowed by all, that this study cannot but be of great assistance to those devoted to the arts and sciences, both on account of the variety and the importance of the information to be derived from it. Accordingly, the professors established in the different Italian Universities, make it a particular object, to instruct their pupils in this branch of learning.

It may be added, that Petrarch is said to have made a collection of Imperial gold and silver medals, which is the earliest mention of a treasure of that kind,

Politian gave the first example of a scientific examination of coins and medals, and was the first to adduce them as vouchers of ancient orthography, customs, &c.

Vaillaint in his history of the Syrian Kings, published in 1681, set the first example of fixing the dates, and arranging the order of events in ancient historians, by means of these infallible vouchers.

It is a curious fact, that there is scarcely an instance to be found of duplicates among the existing ancient coins; i. e. of two so precisely alike as to prove that they were struck with the same die. But this is thought by some to be sufficiently accounted for by supposing, that not more than one of a million of those issued from the mints has descended to our time.

It is known also, that their dies soon gave way by the violence to which they were subjected, and that not having suitable instruments for repairing such as were less injured, they were obliged to engrave numerous dies for the same coin; which fact will go far to account for the great variety found in the coins of the same ancient personage.

U. S. SHIP DELAWARE IN 1833.

By the Author of "A Visit to the South Seas."

NO. II.

> "We will revive those times, and in our memories
> Preserve, and still keep fresh, like flowers in water,
> Their happier scenes."

It was a disappointment and a grief to pass up the British Channel, on a fine day, without a single peep at England.

Though Cherbourg was known to be our destination, the hope of being led, by some accident of wind or weather, to drop anchor, by the way, for a day at least at Portsmouth, had been so frequently indulged, in crossing the Atlantic, as almost to have become a fixed expectation. In any case, I had thought only of coasting the cliffs of the sea-girt isle, in such near view, as to revive the imagery and bring fresh to the heart the impressions with which, in years gone by, I had gazed, for a first time, upon the bold promontories and bright landscapes of her southern shore, from the "Land's End" to "Dungeness."

But we were disappointed. Though the morning was clear and bright, in vain did we strain our eyes to catch even a "looming of the land," or the faintest outline of the shore. Nothing was to be seen but the green waters, dancing in the sun to the freshness of the breeze, till covered with "white-caps;" and, here and there, a coaster, or other sail, homeward or outward bound, making the most of the bright weather in gaining a port, or in clearing the land.

Not a glimpse of Britain met the eye; but, thanks, for the high capacity, to the adorable Being, who hath

"Dealt benign his various gifts to man,"

we, in imagination, feasted our souls with pictures of her, such as we know her to be—pictures from life of our own sketching—till, in the vivid remembrance, we almost fancied our dream a reality.

In almost the same number of moments, we lived over a six months travel—reviving every impression we had known, and shaking hands with every friend we had made, from Southampton to Inverness, and from the Frith of Forth to the Bristol Channel. Again we stood, with no unprofitable musings, beside the grey abbey and the ivied tower; gazed upon the stately palace and wide-spread park; or feasted on the "goodly prospect spread around." Again clambered the Scottish mountains; traversed her lochs and glens; and heard the reaper's song as he shouted the harvest home. And again, in cottage or baronial hall, mingled our sympathies and affections at the fireside, and at the household altars of those we love, till our hearts were filled with warm remembrances, and with prayer.

It was in the midst of such recollections and emotions, that the cry "land ho!" announced a first view of the opposite coast. The "Caskets" were in sight, followed rapidly, as stated in a previous paper, by the islands of Guernsey and Alderney, and the shores of France in the neighborhood of Cape La Hogue; and, in the speedy appearance of a verdant and beautiful coast scene on our right, in the vicinity of Cherbourg, a new subject was, at once, presented for observation and thought.

As we hastened to our port, the land—checkered with hedges, interspersed with clumps of trees and thickly sprinkled with stone dwellings, with, here and there, a hamlet and church tower—was seen to rise, for a mile or more inland, boldly and with much picturesque beauty from the shores; not differing, very distinctively, as thus viewed in the distance, except it might be in the dark color of the buildings, from the general characteristics of an English landscape. Although early in September, the autumnal leaf was already imparting its hue to the foliage; heightening, rather than detracting from the general effect of the scenery, while at the same time, it admonished us that the seasons on shore had not been standing still, during the month we had been upon the Atlantic.

From the English pilot, received on board in the Channel, we had learned, that only a day or two previous, Louis Philippe, the queen, and princesses were in Cherbourg, in a tour they were making of Normandy. A large number of the members of the royal yatch club of England, apprized of the visit, had gone over, in their yatchs, from the Isle of Wight, where they happened at the time, to pay their respects to their Majesties; and, we were not without a hope, that the Delaware would find the whole company of visitors still there.

We missed by a day, however, the pageantry with which the port had been enlivened, on this occasion—the royal party had left for Paris, and the yatchs, with a single exception, had returned to England. A French frigate and sloop of war alone occupied the anchorage, and both town and harbor were in a state of every day quietude and dullness. The newspapers, however, were still filled with accounts of the fetes which had been given; with addresses of patriotism and loyalty to the king, praises of the amiability and benevolence of the queen, and compliments to the grace and beauty of the princesses; all in strong contrast to the announcements, connected with the last royal visit, previous to this, with which Cherbourg was honored—that of Charles X., his family and household, in their flight from Paris to England, after the three "days of July, 1830."

The wind freshened to so much of a gale, immediately after we had come to anchor, that a quarantine boat, only, with a health officer, attempted to visit us during the remainder of the day. Even this did not venture out a second time; and we were left without "*pratique*," or the liberty of communicating with the shore, till late on the following morning—a period which we gave, chiefly, to the study of the geography of the place, from our position, at the anchorage, two miles or more, from the land.

The town is situated, at the bottom of a wide and deep bay, in the channel, formed by the Capes La Hogue and Barfleur. It lies immediately in front of a narrow glen, running inland, from which a small stream flows into the harbor; and is overhung, on the south, by a lofty and naked precipice of rock crowned by a fortress. Along the shores, a magnificent dock-yard, with its massive walls and lofty ship-houses, an old Augustine abbey, and an extensive range of buildings, having the appearance of a deserted arsenal, constitute its leading features as seen from the water. The rest of the town, composed of the dwellings of some eighteen or twenty thousand inhabitants, has a mean and clumsy look.

The importance of the place arises, almost exclusively, from the advantages of its position as a naval depot, and the immense expenditures of the French government, during the last half century, in the formation of piers, docks and military defences for its security, and in the construction of a dike, or break-water, to protect the anchorage, naturally, a roadstead only, open to the north, and without any defence against a heavy sea.

The facility with which a fleet can get to sea, either to the north or to the south, and the command it has of the channel, in both directions, early attracted the attention of the government to its improvement and defence. All, however, that had been accomplished, with this view, in the excavation of a basin, the building of a pier, and the erection of fortresses, previous to the year 1756, was then destroyed by the English, who captured and plundered the town. The works were renewed by Louis XVI., on a stupendous scale,

but interrupted by the Revolution, and not put in progress again, till 1803, under Napoleon.

The basin in the dock-yard, excavated under Bonaparte from the solid rock, is a superb and noble piece of work;—near three hundred yards in length, and more than two hundred and fifty in breadth, and capable of containing forty-five ships-of-the-line, with a proportionate number of frigates. It is fifty feet in depth, the bottom being thirty feet below the level of the sea, at the lowest tides, so as to secure, at all times, a safe station for the largest ships. It was not completed till 1813; and the opening of it was deemed an event of sufficient importance, not only to call for the presence of the Emperor, but, of the Empress Maria Louisa, also, who with all the court attended to witness—in the language of Las Cases—"the magnificent and sublime spectacle of the sudden eruption of the sea, admitted by the rupture of the immense dam which had hitherto repelled its efforts, followed immediately by the entrance of the largest vessels into the enclosure."

This stupendous work, justly considered one of the noblest monuments of Napoleon's reign, formed, according to Las Cases, only a part of his plan of improvement at the Dock Yard. He had determined on constructing, in a lateral direction, at a little distance beyond this basin, a second or inner port large enough to receive twenty-five ships-of-the-line. And behind these two basins, extending along their whole length, in a semi-circular form, were to have been built thirty covered docks, where an equal number of sail-of-the-line might be kept in constant readiness for sea: a plan which is now being completed, under the present government.

The dike, or breakwater, is a collossal work still more worthy the epithet "stupendous." It was commenced in the time of Louis XVI., by the construction of an immense number of conical frames—each sixty-nine feet in height, sixty in diameter at the summit, and one hundred and forty at the base—which were filled with stone and sunk in the water in a semi-circular form opposite the town, so far distant as to enclose a harbor three miles and more in diameter, with a passage for ingress and egress, between the dike and

the main, on each side. The spaces between these frames were filled up with enormous masses of granite and loose stones, till, by successive accumulations, a barrier—with a base one hundred and sixty feet, in width, and thirty feet thick, at the summit—was formed sufficient to resist the impetuosity of the sea.

Between the years 1802 and 1804, this work was carried on so vigorously, and with such success, that the central part was elevated nine feet above the highest level of the water, and surmounted by a battery of twenty of the heaviest guns. In 1808, a violent tempest swept a part of the dike entirely away; and with it, as we are told, a building used as a barrack, containing, at the time, a large detachment of men. The damage, however, was rapidly repaired; and an immense elliptical tower of granite built in the centre and within the dike, which it supports, and by which it is, in its turn, covered.

The huge foundation of this work, says Las Cases, which, being constructed in the open sea, of course presented enormous difficulties in its accomplishment, was completed at the end of 1812, and raised to the height of six feet above the level of the highest tides. The solidity which it has preserved since that period—though entirely neglected till recently, and exposed to the constant action of the waves—is a manifest proof of the strength of the defensive works to be erected on this artificial rock, when the time should have arrived, for the full completion of the plan. This plan was to raise, at the height of one story, a barrack capable of containing the garrison, a powder magazine, reservoir, &c. This was to be surmounted by an arched platform, bomb proof, and capable of receiving a case-mated battery of nine thirty-six pounders. Above this was to be a second platform for mounted guns, if necessary—the whole to crown the central battery already existing, on the dike itself. Thus any attack would have been resisted by four ranges of batteries one above another.

It is in carrying out this, or a similar plan, that the workmen on the dike are now engaged. When the defences are thus completed, with heavy castles and redoubts, of which

there are eight on the shores opposite, and forts and batteries to defend the anchorage, the passage of the entrance will be impracticable to an enemy, and Cherbourg become one of the finest harbors, and one of the most magnificent naval depots, in the world.

The cost of the entire works has already amounted, since the commencement of the breakwater, to something like fifty millions of dollars!

The day after our arrival Mr. and Mrs. Livingston, Mr. and Mrs. Barton, and Mr. Smith Van Buren, a son of the Vice President, who accompanied the ambassador to France, attended by Captain Ballard and a party of officers, landed in a procession of three boats, under a salute from the Delaware. Mr. Livingston, to the high talent and varied attainment, for which he was so greatly distinguished, added the most gentle and amiable qualities of our nature, and a simplicity and kindness of manner, that won the heartfelt goodwill and lasting friendship of all on board. The intercourse between himself and family and the officers, had been of the most interesting and agreeable character. The most sincere and the kindest feelings were, mutually, felt and reciprocated; and their departure from us excited a deeper interest, and more lively sensibility, than could have been anticipated from the association, as it were, of a day. Though we might again meet, within the hour, it would be, in one sense, in a new position towards each other—their debarkation was the breaking up of the relations of the voyage; and sympathies, which had been brought into exercise during it, caused warm blessings of the heart to mingle themselves with a parting salutation on ship-board.

On the following day, we were entertained by them, at dinner, at the principal hotel of the place, previous to their setting off for Paris; and two or three hours were given by us, before meeting them at table, to a general survey of the town and its environs. It was our intention, on landing, at once to have visited the dock yard; but, finding that some preparatory arrangements were necessary for an admission, we were obliged to defer the inspection till a future day.

There is little else to interest one in the place. The

streets are, in general, narrow and irregular; and the dwellings of the citizens, though decent in the exterior, are marked by little within as seen from the street, through the doors and large open windows descending to the floor, which, to an American eye, would promise much either of comfort or neatness. M. Liais, the American consul, and his brother, were most kind in their attentions to us, and became our cicerones to the promenades, and most interesting points of view about the town.

In the little glen inland, there is some wild and beautiful scenery, with a cottage or two of tasteful architecture, surrounded by prettily arranged gardens and shrubberies; and from a bold rock, crowning an adjoining hill, we had an extensive and fine picture both on land and sea.

The inhabitants of the town, and surrounding country, seem a hardy, industrious, and healthful people, with nut-brown skins and ruddy cheeks. The most striking peculiarity in their costume, is in the caps of the women. These are of muslin, stiffly starched, high and small in the crown, with a narrow border in front, while enormous lappets or wings, spreading broadly out, project far behind their heads, over the shoulders, much in the proportion, to their dumpy figures, of the wings of a butterfly to its body. These caps constitute the universal covering for the head of females of the inferior classes—I do not recollect to have seen a bonnet in the place—and always perfectly white, and well "done up," and not unfrequently ornamented with lace and ribbons, form quite a showy and striking head-dress. Some of our company were so much taken with them, as to procure them for their female friends at home; more, I suspect, however, with a view to their being placed in a cabinet of curiosities, than of being adopted as an article of fashion.

While we amused ourselves, with some little observation of this kind in the town, the Delaware was an object of great curiosity, and apparently of admiration, to many who visited her from the shore. Admiral and Lady Maitland came on board *incognito*, from a yacht in which they had just arrived from Portsmouth; and had been some time passing over the ship, under the guidance of a midshipman only, before their

rank was accidentally discovered, through an officer who had known the admiral in the Mediterranean. He was lavish in his praise of the magnificent equipments of our ship, and the appearance of her crew.

Many French naval and military men also examined her minutely. A principal party of these, among whom was Admiral the Baron Makau, Marine Prefect of the department of which Cherbourg is the chief town, chose the Sabbath for their visit. The crew were already at quarters, in their summer holiday-dress, and the ship in the most perfect condition, preparatory to our worship, when the approach of the party was unexpectedly announced. They at once joined Captain Ballard in the customary daily inspection of the ship and crew, and thus saw us in the most favorable circumstances for effect, in the appearance both of our men and the vessel. They professed themselves much gratified, and prolonged their visit, two hours and more, to the unavoidable interruption and postponement of the service of the morning.

MISCELLANY.

REPORT OF THE U. S. NAVAL LYCEUM,

Presented to the American Lyceum, for incorporation in the proceedings of its 6th annual meeting, in May, 1836.

In reviewing the progress of our institution, during the year which has elapsed, since we last had the honor of meeting with the members of the American Lyceum, by our delegates, for the purpose of again presenting them with a view of the United States Naval Lyceum and its prospects, our feeling of satisfaction would, at times, almost have been flattered to pride, had not gratitude pointed to a host of benefactors, and so tempered it with humility, as, we trust, to prevent the vain boasting, natural to precocity.

As to the *materiel*—large additions have been made to the library, principally of a scientific character; and due attention has been paid to keeping our table supplied with such of the periodical publications of the day, as are most likely to contribute to that important object of the Lyceum—the diffusion of useful knowledge.

Our cabinet has been enriched by valuable contributions from our brother officers abroad; but especially are we indebted to Commodore Patterson, and to J. L. Payson, Esq., U. S. Consul at Messina, for two splendid collections of lavas, the one from Mount Vesuvius, the other from Mount Etna. Indeed, our calculations on the zeal of our cruising officers have been so fully realized, that almost every ship, from every quarter of the globe, has brought us some token of remembrance, in minerals, shells, animals, or antique remains.

Our pictorial department has been increased—most conspicuously, by a valuable collection of portraits, representing all the Presidents of the United States: the munificent gift of Luman Reed, Esq., of New-York.

And, as a noble corner stone for a department of statuary,

we have been recently presented (by J. C. Halsey, Esq., of New-York) with a bust of Washington, of the purest marble, executed by our countryman Greenough, at Florence; and it may be well to remark here, that this is not an isolated instance of Mr. Halsey's liberality, as our library can well attest.

Owing, chiefly, to the erratic duties of the members of the Lyceum, the hope of being able to establish a system of lectures has not yet been realized; but it is not abandoned.

The publication, promised in our last Report, has made its appearance, under the title of the "Naval Magazine," and thus far under flattering auspices. As the great expense attending a publication of the kind, compels us to resort to general patronage for assistance, it may assume more of the character of a work of "taste," than may be strictly consistent, with its scientific and instructive purposes; but it is to be hoped that, as it is "upon the waters,"

"The world may find it out 'ere many days,"

and that it may win to its support—in contributions of appropriate articles for its pages—more of those who are concerned in the "wonders of the deep," so that while an occasional yarn may be spun for the amusement of general readers, the more important object of soliciting, and imparting, useful information may still be kept strictly in view.

Thus have we endeavored to present to you some of the more prominent points of improvement in the last year; but we feel, that something more is required of us, than a display of what may be termed, the mere physical part of an institution.

When called upon, by such an association as the American Lyceum, the great object of which is "the advancement of education, especially in common schools, and the general diffusion of knowledge"—while we acknowledge the honor of its call, we feel bound, by it, to prove that our sympathies in their great cause, are enlisted by motives of the strongest interest.

It was the hope of the founders of our Lyceum, that simi-

lar institutions would have been formed, at all of the Naval Stations in the United States; and thus an extensive social chain be formed for the promotion of intellectual improvement. This hope has not yet been realized; but as our experiment ripens into success, "a consummation so devoutly to be wished," must occur as a natural consequence. And, if we mistake not the signs of the times, there is a spirit abroad which will carry the system still further: and temporary lyceums may be formed on board our cruising vessels, and, thus, a happy means of moral and intellectual improvement be constantly at hand.

In the prosecution of our philanthropic plans, we must descend a little, and embrace, in the scale of our benevolence, those who form with us, and that largely, a component part of the navy—the common sailors. The candid and unbiassed observer will tell you, that it requires no enthusiast in the cause of seamen to perceive that, within a few years past, there has been a great change in their reading propensities, and in their desire to acquire the common elements of knowledge. More than one of us have witnessed the pleasing sight of such instruction being imparted, from a more fortunate tar to his messmate, who, from his age, could not avail himself of the advantages of the Boys' School, which is now established on board of most ships. And, we may be excused the pride, with which we give our testimony to the fact, that our native seamen, particularly those from New-England, are seldom deficient in common education. To what, then, you may well ask, are we indebted for this change? and to what must we look for further changes? We answer, to the common schools of our land. Are we not, then, deeply interested in your cause? And are there not reciprocal obligations between us?

Having thus acknowledged our indebtedness to you, and asserted that sailors are interested in the objects of the American Lyceum, it may not be presuming too far to offer our opinion, from experience, upon your second question—"How the Bible should be used in common schools?"

In answer to which, we would briefly say: divest the Bible of the false halo which superstition, not piety, has thrown around it—and which has been the means of making it too frequently, even since the days of the reformation, almost as much of a sealed book as it was before, causing it to be taken down, occasionally only, as

"the great ha' Bible!"—

and let it be taught in our schools as a text-book in history, poetry, and morals. The most natural book of study, as a foundation for the after-improvement of the higher faculties, would seem that, which is admitted to contain the most correct account of the primitive state of the world and of the history of our race, and to furnish the purest principles of moral action—leaving the mind to follow whatever bent, as to theology, it might acquire in the course of such study. If allowed to surmise what that bent would be, we would say, the entire subversion of superstition: a feeling which has been almost the opprobrium of seamen, but one which may, in the sailor, be very readily excused; for, if

"The stream that with its thousand crystal bubbles,
Bursts from the bosom of some desert rock
In secret solitude, may well be deem'd
The haunt of something purer, more refined,
And mightier than ourselves"—

how much more so (to the mind of the mariner, unenlightened by revelation) the ocean—that "image of Eternity—boundless, endless, and sublime!"

The tendency of the Bible, thus used in common schools, upon those who should afterwards follow the sea, would be to promote and secure, subordination, sobriety, and good morals, both in our merchant and naval service, and prove a wholesome check to that flood of ephemeral literature, in the shape of small and cheap newspapers, which, we are sorry to believe, more frequently ministers to the gratification of evil passions, and mere idle curiosity in catching at horrible tales, showing too much of the dark side of our

nature, than in helping us onward in the great march of intellect.

Such is our relation to our brethren on shore, that we must, as a class of citizens, of necessity be their current representatives abroad; and must, *indeed*, wish them success in their efforts to devise means, by which, they may send the great body of us forth, as an example of the successful experiment, in the western world, of a free, enlightened, and moral republic, with knowledge for power, and wisdom to control it.

We fear that we have stretched too far the limits assigned us, by the resolution of the Naval Lyceum; but, our excuse for trespassing upon you, and upon its confidence, must be our conviction that we could not have done justice to its motives, without opening to you its moral as well as physical cabinet.

(Signed,) John Haslett, Chairman.
Tunis Craven, Wm. L. Hudson, } Committee.

U. S. Naval Lyceum,
New-York Navy Yard.

ANSWER

To a Query in the first number of the "Naval Magazine," (page 106.)

Several questions for solution were proposed in the 1st No. of this Magazine: among them were two quotations from "Bowditch's Practical Navigator," which explaining the same thing, (variation of the compass,) are said to involve a paradox.

I have not that No. of the Magazine by me; I shall quote from memory: It says, "In Bowditch's Practical Navigator," page —, "The variation" (of the compass) "is east, when the north point of the compass, (or magnetic north,) is to the eastward of the true north." Again, page —, "The variation will be easterly when the point representing the true bearing,

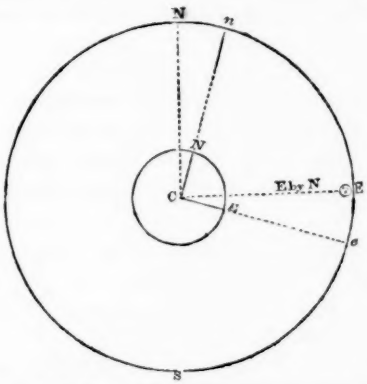
is to the right hand of the point representing the magnetic bearing. How is this paradox reconciled?

Strictly speaking, the doctor is not paradoxical in these explanations: perhaps he might have gained a little in perspicuity by writing *on the compass* after "point" in the latter clause, and having it to read, "The variation will be easterly when the point *on the compass*, representing the true bearing, is to the right hand of the point representing the magnetic bearing;" which is certainly the author's *expressed* meaning.

The first clause of the quotation is a perfect definition of easterly variation: to reconcile the other with it, let the reader suppose that, for the purpose of finding the variation, he himself is taking an amplitude, say on the 23d of September, when the sun has no declination, and is rising in the east point of the horizon; he marks the bearing of the sun by the azimuth compass, and finds it to be E. 11° 15′ N., or E. by N.; consequently E. by N. is the point which represents the magnetic bearing of the sun; the point *on the compass* which represents or stands for the *true* bearing of the sun is east; and east is to the right hand of E. by N.

By way of illustration, let N. E. S. represent the sensible horizon, and ☉ the sun in the east point of it. Also, let N. represent the *true* north; *n* the magnetic north; and *e* the magnetic east, as shown by a compass at C, of which N. E. is the card. The observer is at C, the north point of his compass points to *n*, which being to the east or right-hand of the true north, shows, according to the first clause of the paradox, the variation to be easterly. Call it one point: now, to find the *true* bearing of *n* or the magnetic north point, the variation must be applied to the right hand of the magnetic bearing of the point at *n*, which is north; which being done, gives the *true* bearing of *n* to be N. by E.

Again, the observer, compass and variation remaining the same: the sun is rising in the east point of the horizon, at ☉. On the compass card, *e* represents the east, and C ☉ (E. by N.) represents the magnetic bearing of the sun at ☉ in the east point of the horizon; E then is the point on the compass card which represents or stands for the true bear-



ing of the sun, and C E, or E. by N. represents its magnetic bearing; E (on the compass card) is to the right hand of (E. by N.) the magnetic bearing of the sun; and the variation being applied to the right hand of (E. by N.) the magnetic bearing of the sun gives east, its true bearing.

Though one of the most simple, yet, to the practical navigator, the problem of variation is sometimes one of the most perplexing problems in navigation. In spite of its simplicity the practitioner finds something embarrassing in the direction about applying easterly variation to the right, and in the rule about the variation being easterly when the point representing the true is to the right hand of the point representing the magnetic bearing of any object. The U. S. ship ——— when about passing from east into west variation, determined the variation by azimuth, and allowed it the wrong way. When the officers worked up their "day's work," they found their "dead reckoning" to differ widely from the master's "observation," but this difference was reconciled by drawing upon that admirable convenience, in such operations, "a current." The ship sailed on, the needle continued to increase its variation, and the difference between the latitude by "dead reckoning" and by observation became greater and greater, until the rapidity of the current excited surprise. The ship was being swept out of her course by "horsing currents," where currents had never been known to set. After several days it was found that the variation had

been allowed to the east, when it should have been allowed to the west, which accounted for the current.

Every thing in the variation problem that has even the semblance of a paradox may be avoided by rejecting the terms *right* and *left* in the rule for determining whether the variation be east or west, and then making the criterion to consist in the *magnetic* azimuth or amplitude being greater or less than the *true;* this, besides being the most direct, is the most mathematical manner of procedure, for both quantities are expressed by figures, and the solution of the problem is made to depend upon the comparative magnitude of the magnetic quantity.

In north latitude azimuths are counted from the north pole towards the E. or W. points; and in south latitude towards the same points from the S. pole. Thus, in N. lat. an azimuth is always N. (so many degrees) E. or W.: it is E. when the object (say the sun) whose azimuth is considered, is on the east side of the meridian, and W. afterwards.

When the magnetic is less than the true azimuth,

$$\text{The var. is } \left\{\begin{matrix} \text{W.} \\ \text{E.} \end{matrix}\right\} \text{in N. lat.} \quad \left\{\begin{matrix} \text{W.} \\ \text{E.} \end{matrix}\right\} \text{in S. lat.} \quad \left.\begin{matrix} \\ \\ \end{matrix}\right\} \text{both azimuths being } \left\{\begin{matrix} \text{W.} \\ \text{E.} \\ \text{E.} \\ \text{W.} \end{matrix}\right.$$

When the magnetic is greater than the true azimuth,

$$\text{The var. is } \left\{\begin{matrix} \text{E.} \\ \text{W.} \end{matrix}\right\} \text{in N. lat.} \quad \left\{\begin{matrix} \text{E.} \\ \text{W.} \end{matrix}\right\} \text{in S. lat.} \quad \left.\begin{matrix} \\ \\ \end{matrix}\right\} \text{both azimuths being } \left\{\begin{matrix} \text{W.} \\ \text{E.} \\ \text{E.} \\ \text{W.} \end{matrix}\right.$$

The amplitude of an object, (say the sun) is always reckoned from the east, when it is rising, and from the west when it is setting, towards its nearest pole. Thus the declination of the sun being 20° N. its morning amplitude is E ° ′ N.; and its evening amplitude is W ° ′ N. But its declination being S. its amplitude (morning and evening) is south.

When the magnetic is less than the true amplitude,

$$\text{The var. is } \left\{\begin{matrix} \text{W.} \\ \text{E.} \\ \text{W.} \\ \text{E.} \end{matrix}\right\} \text{both amplitudes being } \left\{\begin{matrix} \text{E.} -^{\circ} - \text{N.} \\ \text{E.} -^{\circ} - \text{S.} \\ \text{W.} -^{\circ} - \text{S.} \\ \text{W.} -^{\circ} - \text{N.} \end{matrix}\right.$$

When the magnetic is greater than the true amplitude,

$$\text{The var. is } \left\{\begin{matrix}\text{E.}\\ \text{W.}\\ \text{E.}\\ \text{W.}\end{matrix}\right\} \text{ both amplitudes being } \left\{\begin{matrix}\text{E.} -^{\circ} -' \text{N.}\\ \text{E.} -^{\circ} -' \text{S.}\\ \text{W.} -^{\circ} -' \text{S.}\\ \text{W.} -^{\circ} -' \text{N.}\end{matrix}\right.$$

Amplitudes (the magnetic and true) are of different names, when the sun is rising, and one amplitude is to the northward, and the other to the southward of east; or when the sun is setting, and one amplitude is to the northward and the other to the southward of the west point. The magnetic and true azimuths should always be reckoned around the same way. Suppose the magnetic azimuth of the sun to be N. 170° W. and the true *azimuth* to be N. 170° E.; the supplemental complement of the magnetic azimuth should be used, which is obtained by subtracting the magnetic azimuth from 360°; so that, in this case, the proper magnetic azimuth would be N. 190° E.

When the magnetic and true amplitudes are of different names,

$$\text{The var. is } \left\{\begin{matrix}\text{E.}\\ \text{W.}\\ \text{E.}\\ \text{W.}\end{matrix}\right\} \text{ the mag. ampl. being } \left\{\begin{matrix}\text{E.} -^{\circ} -' \text{N.}\\ \text{E.} -^{\circ} -' \text{S.}\\ \text{W.} -^{\circ} -' \text{S.}\\ \text{W.} -^{\circ} -' \text{N.}\end{matrix}\right.$$

Whenever the amplitudes are of different names, their sum is the variation.

It comes properly within the province of the magazine, I believe, to note errors in nautical works, without intending to mortify, but from the best motives; and with very great respect for the author, I take the liberty to mention the following in "Bowditch's Practical Navigator."

Prop. liii. text line 2, for "A g," read A G.

Table xxvii. Log. Sines, Tang. and Sec. Tang. 4° 2′, "for 8.85826," read 8.84826.

LAST LETTER OF MR. MADISON.

The subjoined letter, of which a copy, from the subject matter, has been kindly furnished us for the Naval Magazine, addressed to the Hon. Mr. Rives, of the U. S. Senate, is believed, as stated in the Senate by Mr. Rives, to be the last

letter ever signed by Mr. Madison. The death of the distinguished and venerable writer occurred within a week after its date.

"MONTPELLIER, June 22d, 1836.

"MY DEAR SIR,—I have received your very friendly favor of the 15th, inclosing the diploma of honorary membership of the United States Naval Lyceum. As I acknowledged, through Captain Ridgely, soon after its receipt, the notification transmitted by him, that the society had conferred on me this distinction, it may suffice to ask the favor of your communicating to Lieut. Hudson the safe receipt of the diploma.

"My health has been much impaired latterly, and I still continue much enfeebled; but, both Mrs. Madison and myself look, with pleasure, to the promised call from Mrs. Rives and yourself on your return.

"With our cordial salutations to both,

"JAMES MADISON.

"MR. RIVES."

NAVAL INTELLIGENCE.

[Official.]

Navy Department, June 4th, 1836.

The Board of Examination, recently convened at Baltimore, composed of Captains James Biddle, President, Henry E. Ballard, John B. Nicolson, Alex. Claxton and Lawrence Kearney, has closed its duties.

The following is a list of the Midshipmen who passed, arranged in the order assigned them by the Board.

Class.—1829.

1. John J. Almy, 2. Otway H. Berryman, 3. Edmund Jenkins, 4. Edwin J. De Haven.

Class.—1830.

1. Richard S. Tilghman, 2. James H. Strong, 3. James M. Frailey, 4. Carlisle P. Patterson, 5. William Pope, 6. James L. Heap, 7. George R. Carroll, 8. Augustus S. Baldwin, 9. Edmund T. Shubrick, 10. Stephen Dod, 11. William B. Whiting.

Commodore Dallas, in a letter dated Pensacola, May 16, informs the merchants of New Orleans, that the U. S. schooner Grampus would be off the Balize on the 21st inst. to afford convoy to American vessels destined to any of the ports of Mexico—and likewise to bring from any of the Mexican ports, specie belonging to American merchants. The Warren sloop-of-war, now on the coast, has similar orders.

New-York Gazette, June 9th, 1836.

The ship Vincennes, Captain Aulick, arrived in Hampton Roads, from the Pacific and East Indies, via the Cape of Good Hope, on Sunday night, the 5th of June, in 40 days, from St. Helena,—all well.

The U. S. sloop Vandalia, Capt. Webb, sailed from the Havana, on a cruise, on the 22d of May. The sloop Concord, Capt. Mix, was at Tampa Bay on the 28th of May, and the St. Louis, Capt. Rousseau, at Key West, on the 29th of the same month.

We understand, says the Pensacola Gazette of the 11th of June, that Com. Dallas has received information from Washington that two sloops-of-war are to be immediately added to his squadron, and that three steam-boats are to be purchased or hired, to assist in carrying on the war with the Indians under his direction.

The U. S. schooner Grampus, Lt. Com'g Boarman, sailed from Pensacola, for the Balize, on the 17th of May. U. S. sloop Warren, Capt. Taylor, was cruising on the coast of Mexico, on the 16th of May; the U. S. sloop Erie, Com. Renshaw, at Rio de Janeiro, on the 11th of April, and the

U. S. frigate Brandywine, Capt. Deacon, with the schooner Boxer, Lt. Com'g Page, was at Callao on the 12th of February. The Boxer to sail the 14th of the same month for Panama.

The U. S. Sloop Peacock, Com. Kennedy, and schooner Enterprise, Lt. Com'g Campbell, when last heard from, had arrived at Batavia, from Ceylon—all well, without the loss of a man since leaving the United States.

The U. S. sloop Ontario arrived at New-York, from

Rio de Janeiro, Bahio, Pernambuco, and Maranham, on the 23rd of June—having sailed from the last port on the 31st of May.

The U. S. sloop Boston is to sail in a day or two from Boston for the West Indies. The sloop Natchez, lying at the Navy Yard at New York, is ready for sea, destined for the same station.

LIST OF THE OFFICERS OF THE U. S. SLOOP BOSTON.

Commander, Master Commandant, Bladen Dulaney. *Lieutenants*, John Kelly, John W. Mooers, Fitz Allen Deas, William W. Hunter, Edwin M. Moore, John K. Mitchell, Henry Moor, and James Findlay Schenck. *Acting Master*, Passed Midshipman, Guert Gansevoort. *Surgeon*, William Johnson. *Passed Assistant Surgeon*, H. N. Glentworth. *Purser*, Peyton A. Southall. *Passed Midshipmen*, John De Camp, Henry French, Joseph R. Brown, and James Anderson. *Midshipmen*, Edmund C. Kennedy, Lewis Morris Wilkins, James F. Armstrong, George W. Rogers. *Boatswain*, Theodore Fernald. *Gunner*, Jacob Carpenter. *Sailmaker*, Rufus Bridge. *Captain's Clerk*, J. W. Getty.

LIST OF OFFICERS ORDERED TO THE U. S. SLOOP NATCHEZ.

Commander, Master Commandant, W. K. Latimer. *Lieutenants*, E. Peck, T. G. Benham, J. Marshall, N. W. Duke, and H. Hoff. *Surgeon*, J. R. Chandler. *Passed Assistant Surgeon*, S. Sharp. *Acting Master*, B. Shephard. *Passed Midshipmen*, W. W. Bleecker, D. McDougal, F. B. Renshaw, and C. J. Ridgely. *Midshipmen*, N. Collins, J. G. Anthony, J. W. Brackett, R. L. Love, H. Skipwith, C. Saunders, and L. C. Sartori. *Boatswain*, J. Bryant. *Gunner*, Myrick. *Carpenter*, L. McKay. *Sailmaker*, W. Mitchell.

LIST OF THE OFFICERS ATTACHED TO THE SLOOP ONTARIO ON HER ARRIVAL.

Commander, Master Commandant W. D. Salter. *Lieuts.* John W. West, Lawrence Pennington, and Alexander H. Marbury. *Surgeon*, George W. Codwise. *Purser*, B. J. Cahoone. *Acting Master*, A. Gibson. *Midshipmen*, Robert Burts, J. C. Williamson, S. P. Sanford, R. L. Browning, B. F. Andrews, and Mathew Barnes. *Boatswain*, J. Springer. *Gunner*, William Philips. *Carpenter*, Alonzo Jones. *Sailmaker*, John Heckle.

The Rev. O. M. Johnson, Seaman's Chaplain, at Rio de Janeiro, Daniel Geraud, Esq. of New-York, and Mr. William Longfield, of Alexandria, were passengers in the Ontario.

REVENUE CUTTER SERVICE.

The following list of the officers attached to the revenue service, as arranged on the 27th of June, 1836, is taken from the "Army and Navy Chronicle," of the 30th of that month.

Captains, 19.—John Cahoone, on leave of absence; John Jackson, the Jefferson, Gulf of Mexico, under orders of Navy Department; John A. Webster, the Taney, Norfolk station; Henry D. Hunter, the Jackson, on the coast; W. W. Polk, the Rush, New-York station, (sound); Winslow Foster, on leave of absence; Nicholas Bicker, the Alert, New-York station, (Narrows); Daniel Dobbin, the Erie, Lake Erie; Andrew Mather, the Wolcott, New Haven station; Thos. M. Shaw, the Madison, Portsmouth station; Wm. A. Howard, the McLane, New-Bedford station; Farnifold Green, the Dallas, New-Orleans station; Uriah Coolidge, the Crawford, Eastport station; Robert Day, the Washington, Cape Florida, under orders of Navy Department; Joseph Gold, the Gallatin, Delaware station; Ezekiel Jones, the Morris, Portland station; Lewis Girdler, the Hamilton, Boston station; Thomas C. Rudolph, the Dexter, Mobile station, under orders of Navy Department; Wm. Gatewood, the Vigilant, Newport station.

First Lieutenants, 18.—Michael Conner, the Erie; Ca-

leb Currier, the Madison; Green Walden, the Morris; John Besse, the Rush; Charles B. Childs, the Washington; Philemon Gatewood, waiting orders; Henry B. Nones, the Alert; Josiah Sturgis, the McLane; Henry Prince, the Wolcott; Josiah Murch, the Gallatin; John Whitcomb, the Crawford; Richard Evans, the Taney; Samuel P. Scott, the Hamilton; Napoleon L. Cost, the Jackson; Horatio N. Tracy, the Vigilant; Wm. B. Whitehead, the Jefferson; Gay Moore, the Dexter; John C. Jones, the Campbell.

Second Lieutenants, 20.—Alexander V. Frazer, on furlough*; Douglas Ottinger, the Erie; Wm. Russell, the Madison; John J. Nimmo, on leave of absence; George Hays, the McLane; Charles Grover, the Gallatin; Thomas Sands, the Campbell; Thomas Stoddart, the Hamilton; Chas. B. Beaufort, the Dallas; Francis Martin, the Dexter; Stephen Cornell, the Vigilant; Joseph A. Noyes, the Crawford; Peter Storer, the Rush; James McGowan, the Jackson; James H. Roach, the Morris; Stephen Thatcher, the Wolcott: George Clark, the Washington; John Walker, the Taney; Wm. B. McLean, the Alert; D. M. Stokes, the Jefferson.

Third Lieutenants, 15.—Thos. Osburn, the Jefferson; J. W. Hunter, the Jackson; John B. Fulton, the Taney; George Berriman, the Gallatin; Arnold Burrough, the Crawford; Richard Millen, the McLane; James Thompson, the Wolcott; Beverly T. Digges, the Campbell; Charles A. Newton, the Alert; Supply Clapp Foss, the Madison; S. T. Williams, the Morris; Blyden Hedge, the Rush; James Morrison, the Washington; Osmond Peters, the Dexter; John S. S. Chaddock, waiting orders.

RECENT ORDERS AND CHANGES.

Surgeon Bailey Washington, to be Fleet Surgeon in the Mediterranean, vice Surgeon T. J. Boyd, who has permission to return home in the frigate Potomac, on the arrival of the United States on her station.

Passed Assistant Surgeon George Clymer, ordered to the Mediterranean for duty on board the frigate Potomac.

Assistant Surgeon W. W. Valk, to the Navy Yard, Pensacola, to relieve Assistant Surgeon J. R. Peckworth.

Assistant Surgeon L. B. Hunter, to the Navy Yard at New-York.

Passed Assistant Surgeon A. G. Gambril, to the Receiving Ship at New-York.

Midshipman E. J. De Haven, to the Receiving Vessel at Baltimore.

Passed Midshipman J. W. Berrian, to the Navy Yard, Norfolk.

Passed Midshipman A. A. Holcomb, on Coast Survey, schooner Jersey.

Midshipman J. Rutledge, to the Squadron in the West Indies.

Midshipman T. B. Huger, to the Naval School at New-York.

Midshipman E. G. Parrott, to the Navy Yard, Boston.

Lieutenant A. E. Downes, to the Ordinary, Boston.

Lieutenants H. W. Morris, S. Lockwood and W. S. Ogden, to the Receiving Ship at New-York.

Passed Midshipmen E. R. Thompson, W. C. Spencer, F. Piper and H. C. Flagg, to the Navy Yard, New-York.

Passed Midshipmen T. A. Hunt, S. Dod and A. S. Baldwin, and *Midshipmen* C. A. Auze, Charles Hunter and W. B. Renshaw, to the Receiving Ship, New-York.

Surgeon Fairlie Patton, is ordered to the Hospital at Pensacola.

PROMOTIONS OMITTED IN LAST REGISTER.

Passed Midshipmen John K. Mitchell, Thomas Turner, Henry Moor, Charles H. Poor, Jas. Findlay Schenck, John B. Cutting, to Lieutenants.

And *Passed Midshipmen* T. M. Washington, Lewis G. Keith and Mathew F. Maury, to be Lieutenants from June 16th, 1836.

Assistant Surgeons, passed for promotion, W. A. W. Spotswood, John C. Spencer, John B. Elliot, A. G. Gambrill and George Clymer.

RESIGNATIONS IN THE U. S. NAVY.

Midshipmen, Thruston M. Taylor, May 28th; William P. Bradburn, June 2d; Levi Lincoln, Jr., June 3d; S. A. Turner, June 6th; P. W. Humphreys, June 7th; Townsend Dade, June 9th; and John G. Todd, June 11th, 1836.

LIGHT HOUSES.—The light on Gun Cay, on the western edge of the Great Bahama Bank, in lat. 25° 35′ N. and long. 75° 15′ W., was lit on the 7th of May last. It is a revolving light, and performs its revolutions in 90 seconds, so that the brightest appearance will be visible in every part of the horizon once in every 30 seconds. It can be seen 18 miles from the deck of a small vessel. Good anchorage can be had in 7 fathoms water, the light bearing E. half N., distant half a mile.

The light at the "Hole in the Wall," the S. E. point of Abaco, was probably lit on the 1st of June. It is the same in its revolutions with the light on Gun Cay, and has been seen 17 miles, from the top-sail yard of his Majesty's sloop Cruiser.

It may be well here to state that Captain Owen, of his Majesty's ship Thunderer, has been engaged, for the last six years, in surveying in the West Indies, and is now examining the passage between the southern part of the Gingerbread ground and the north part of the Beninnis, and the probability is in favor of a passage for vessels drawing under 16 feet water. Should a passage be found, it will save the circuitous and dangerous route round the Isaacs.

Commercial newspapers are requested to republish the above.

E. & G. W. BLUNT.

NEW-YORK, June 9th, 1836.

Army and Navy Chronicle.

[Official.]

DEPARTMENT OF STATE,
Washington, June 1, 1836.

The following important notices, to navigators, have been transmitted to this department by Mr. Aspinwall, United States Consul at London.

LIGHT HOUSE ON THE START POINT.

Trinity House, London, 27th April, 1836.

Notice is hereby given, that a light will be exhibited in the light-house which has been erected on the *Start Point*, on the coast of Devonshire, on the evening of *Friday, the 1st of July* next, and thenceforth continued every night from sun-set to sun-rise, for the benefit of navigation.

The character of this light, which will burn at an elevation of 204 feet above the level of the sea, at high water spring tides, will be that of a *powerful revolving light*, showing a brilliant flash at regular intervals of *one minute*, and in addition thereto, a *stationary light* will also be exhibited in the same light-house, in the direction of the Berry light.

PORTLAND HIGH LIGHT.

Notice is also given that on and after Friday the said 1st of July next, the *high light at Portland* will *cease to be exhibited as a revolving light*, and will be then and thenceforth continued as a *fixed or stationary light;* together with the cow light, both being visible as fixed lights, in the same direction seaward as heretofore.

By order, J. HERBERT, Secretary.

TO MARINERS.—The information below is important to all who may have occasion to visit Tampa Bay.

U. S. ship Concord, off Passage Island, Tampa Bay, May 25, 1836.

SIR: I have the honor to inform you that I have planted a Beacon on Egemont Island to point ont the entrance to Tampa Bay. It is a spar 80 feet high, with a *barrel* on it, painted *white* and *black*, and may be seen before the land.

To enter the Bay in safety, bring the Beacon to bear E. 1-2 S. by compass, then run for it till you strike 3 1-2 fathoms water, which will take you over the Bar, then steer E. 1-2 N. until the beacon bears E. by S. and then follow the northern Bank, which can always be seen within a cable's length. Run for the Beacon to near a cable's length, and you will have 10 fathoms water, the Beacon bearing South, then run E. by S. to 4 1-2 or 5 fathoms, then E. N. E. 6 miles, and N. E. to 3 fathoms, off Mangrove Point, then

North to 4 fathoms, and N. E. to the anchorage at Gadsden's Point.

I have the honor to be, with great regard,

Your obedient servant,

M. P. MIX, Commander.

To Commodore A. J. DALLAS, Commanding Naval Forces of the United States in the West Indies and Gulf of Mexico, Pensacola.

Upon the arrival, in the Mediterranean, of the frigate United States, the frigate Potomac, Capt. J. T. Nicholson, will return to the United States; visiting, on her route, the American settlements on the coast of Africa, thence to the coast of Brazil, touching at the principal ports, and through the West India islands to Norfolk or New-York. She cannot, therefore, be expected before the middle or end of September.—*Army and Navy Chronicle.*

The "Bunker Hill Aurora," published at Charlestown, Mass., states that the work on the ship Independence, now in the dry dock, has progressed nearly to completion. Her model has not been altered, but she has been reduced to a 64 gun frigate. The cabin is placed on the upper deck, thus leaving the main or gun deck entirely clear, fore and aft. This is an alteration of some importance, and is regarded as a valuable improvement in many respects. She has been newly coppered.—*Army and Navy Chronicle.*

OBITUARY.

JAMES MADISON has been gathered to his fathers. The oracle, which in matters of American history and politics spoke with Delphic power, is hushed for ever. The man, whose very existence seemed to be embodied with that of the Constitution itself, has gone to the dark valley of the shadow of death.

We pause at this dispensation of Providence—for in this case there is a severity imparted to the power of association, which bewilders by the magnitude and grandeur of its presentations, and seems to challenge the progress of nature

herself. We feel that a void has been created in the social fabric, and are unwilling to ascribe that void to the operation of ordinary causes and laws.

To trace the remarkable career of this extraordinary man, even by giving a faint outline of its splendor, would require a much greater space than our limits will allow. But there are three brilliant epochs in his patriarchal life, which, as peculiarly exemplifying his ardent patriotism and exalted abilities, we must briefly advert to. The first was at a trying and portentous period of our revolutionary history, when the feebleness of the confederacy was to be renovated by giving it the consolidated form of a constitutional government, with a uniformity of fundamental laws, and a community of interests and policy. We know the strenuous opposition which this great and beneficent scheme encountered; and we further know that to the overpowering vigor and ability of the essays of the "Federalist," are we principally indebted for its final success. Mr. Madison, with his illustrious associates, John Jay and Alexander Hamilton, were the authors of these masterpieces of human reason: each has his peculiar excellence of style—Mr. Madison being always remarkable for chaste simplicity and harmony, and for great power of ratiocination and earnestness of purpose; strongly indicating how potent was the conviction of the truth of what he wrote, and how exalted must have been the patriotism which inspired sentiments of so much purity and wisdom. In these celebrated essays, Alexander Hamilton and James Madison sometimes united, and such was the overwhelming force of their combined powers of reason and eloquence, that it seemed as if two mighty rivers had formed a junction, after having long fretted and chafed their natural boundaries, to blend their irresistible strength in commingled utility and harmony of action.

The second grand era in his life was the crisis which produced the memorable resolutions of the Virginia Legislature. Of the intrinsic merits of these we forbear to speak, for it is not the province of our Magazine to mingle in the political contests which have disturbed, or may distract the country. But it is notorious that these resolutions were the great moral

lever which wrought a revolution in the politics of the United States, and expelled the predominant party from power.

It is superfluous to add, that the war of America with England was the third, and that its progress and termination were eminently glorious to our country, and to Mr. Madison, as the presiding genius of its destinies through the anxious and arduous struggle.

Shortly after this, he retired from the Presidency of the United States and from public life, and devoted the remaining years of his existence to the calmer pursuits of agriculture and the active cultivation of his intellectual powers. Removed from the excitement of the political arena, his latter days were those of the philosopher and the Christian. Distinguished for a liberal hospitality, and for an enlightened equanimity of temperament, which equalled the boasted philosophy of the proudest sages of Greece and Rome, he discoursed of the present and the past in a strain of fascination, which brought admiring crowds to Montpellier to listen to him. And while he adorned his conversation with all the beautiful tracery of accurate and profound learning and scholarship, it was equally remarkable for unstudied simplicity and unaffected modesty.

Thus lived, and thus died, JAMES MADISON, the benefactor of his country and of mankind.

By a general order, the officers of the Navy and Marine Corps are directed, in consequence of this event, to wear crape on the left arm for three months.

Since the publication of the last number, the Naval Lyceum has to regret the death of one of its honorary members in LUMAN REED, Esq., of this city, of which, he was one of its most enterprising and useful citizens. Unsurpassed, as he was, for untiring industry and zeal in business, he found leisure for the admiration of the arts, and was a liberal and enlightened patron of them. His splendid mansion exhibited the cultivated and accurate knowledge and taste of a mind which could successfully blend commercial pursuits with the study of letters and the sciences. He was one of the most liberal and persevering benefactors of the Naval Lyceum.

JUNE—1836.

TABULAR STATEMENT of the number of Midshipmen, Lieutenants, Commanders, and Captains in service in each year, from 1816 *to* 1835 *inclusive, together with the number of appointments, of promotions, and of deaths, resignations, and dismissals.*

Years.	Midshipmen.				Lieutenants.				Commanders.				Captains.		
	Number in service.	Number appointed.	Number promoted to lieutenants.	Number of deaths, resignations, and dismissals.	Number in service.	Number appointed.	Number promoted.	Number of deaths, resignations, and dismissals.	Number in service.	Number appointed.	Number promoted to captains.	Number of deaths, resignations, and dismissals.	Number in service.	Number appointed.	Number of deaths, resignations, and dismissals.
1816	495	12	31	60	150	31	9	15	18	9	3	2	32	3	4
1817	416	40	42	10	157	42	7	10	22	7	3	-	31	3	
1818	404	71	35	78	182	35	1	3	26	1	1	3	34	1	
1819	362	24	-	36	213	-	-	11	23	-	-	1	35	-	1
1820	350	44	16	12	202	16	9	16	22	9	-	-	34	-	2
1821	366	9	4	35	193	4	-	1	31	-	-	-	32	-	1
1822	336	34	2	12	196	2	-	15	31	-	-	1	31	-	1
1823	356	82	-	55	183	-	-	11	30	-	-	-	30	-	2
1824	383	27	-	54	172	-	-	12	30	-	-	1	28	-	4
1825	356	81	72	24	160	72	7	16	29	7	9	-	24	9	1
1826	341	70	27	10	209	27	3	5	27	3	1	-	32	1	2
1827	374	64	35	11	228	35	4	14	29	4	2	2	31	2	
1828	392	123	34	23	245	34	10	6	29	10	4	2	33	4	2
1829	458	69	-	51	263	-	4	1	33	4	3	-	35	3	1
1830	476	11	11	45	258	11	2	12	34	2	-	3	37		
1831	431	58	22	48	255	22	14	4	33	14	4	2	37	4	1
1832	419	63	14	18	259	14	1	13	41	1	1	-	40	1	4
1833	450	33	11	22	259	11	1	19	41	1	-	1	37		
1834	450	41	9	32	250	9	1	1	41	1	-	2	37		
1835	450	32	9	23	257	9	4	5	40	4	4	-	37	4	3
1836	450	-	-	-	257	-	-	-	40	-	-	-	38		

METEOROLOGICAL OBSERVATIONS FOR THE MONTH OF MAY, 1836,

Made at the U. S. Naval Hospital, N. Y. Station. WILLIAM SWIFT, M. D., Surgeon. Longitude 74° W. Latitude 40° 42′ N. Variation 4° 26′ W.

Moon	DAY OF THE Mth	Week	THERMOMETER ☼ R.	Noon	☼ S.	BAROMETER ☼ R.	Noon	☼ S.	WIND DIRECTION ☼ R.	Noon	☼ S.	WIND FORCE ☼ R.	Noon	☼ S.	WEATHER ☼ R.	Noon	☼ S.	RAIN Q'n'ty	REMARKS
☽	1	B.	40	62	50	30.33	30.27	30.12	S. W.	S. W.	S. E.	light	light	mod.	fair	fair	fair		THE INSTRUMENTS UNCHANGED.
	2	M.	50	76	65	30.00	29.90	29.77	S. W.	S. W.	S. S. W.	light	mod.	mod.	fair	fair	fair	.16	May 2. Showers of rain during the night with thunder and lightning.
	3	T.	60	78	72	29.72	29.73	29.64	S. W.	S. W.	S. W.	light	mod.	mod.	cloudy	fair	fair		7 At 6 30, A. M., commenced raining; at 5, P. M., ceased.
	4	W.	64	70	64	29.70	29.80	29.86	N. W.	N. W.	N. W.	mod.	mod.	mod.	cloudy	fair	fair		13. At 8.30, A. M., commenced blowing from N. W. Frost in the night.
	5	T.	46	64	52	30.00	30.05	30.02	N. N. W.	S. W.	S.	mod.	mod.	light	fair	fair	fair		15. Eclipse of the sun.
	6	F.	42	64	52	30.06	30.08	30.00	E.	S. E.	S. E.	light	light	mod.	fair	fair	fair		18. At 5, P. M., thunder and lightning
☽	7	S.	50	60	55	29.94	29.82	29.73	S. S. E.	S. E.	N.	light	mod.	light	cloudy	rain	cloudy	.75	20. At 4 30, P. M., light shower of rain.
	8	B.	50	62	53	29.81	29.90	29.90	N.	N.	N.	mod.	mod.	mod.	cloudy	cloudy	clear		21. At 4, P. M., squall with rain.
	9	M.	42	60	51	30.00	30.12	30.12	N.	S. W.	S. E.	mod.	light	light	fair	fair	fair		22 At sunset, lightning.
	10	T.	42	65	54	30.14	30.22	30.14	S. S. W.	S. E.	S. E.	light	light	light	fair	fair	fair		24 At 12.30, P. M., drizzling rain
	11	W.	44	70	58	30.06	30.00	29.92	S. W.	S. E.	S.'S. E.	light	mod.	light	fair	cloudy	fair		25 Ceased raining at 8, A. M
	12	T.	49	76	56	29.84	29.76	29.60	S. E.	S. E.	S. E.	light	light	light	fair	cloudy	foggy		27. Light drizzling rain in the night.
	13	F.	60	64	50	29.48	29.64	29.93	S. W.	N. W.	N. W.	mod.	v strong	fresh	cloudy	clear	clear		28. Light rain; at 9, A. M., ceased.
●	14	S.	34	54	48	30.17	30.25	30.23	N. W.	N. W.	S.	mod.	light	light	fair	fair	fair		29 Rain in the night.
	15	B.	40	60	50	30.29	30.29	30.15	S. S. W.	S. S. E.	S. S. E.	light	mod.	fresh	fair	fair	fair		30. At 11, A. M., ceased raining.
	16	M.	46	74	64	30.11	30.00	29.94	S. W.	S. S. E.	S. S. E.	light	mod.	light	fair	fair	cloudy		Fair days, 8; rain on 11; electrical phenomena on 3. Prevailing wind, South Easterly.
	17	T.	58	80	70	29.92	29.92	29.92	S. W.	S. W.	S. S. W.	light	light	light	fair	fair	fair		Quantity of rain, 2 65 inches.
	18	W.	60	78	68	29.93	29.98	29.93	W.	S. S. E.	S. E.	light	light	mod.	fair	fair	cloudy		THERMOMETER.
	19	T.	52	69	60	30.06	30.12	30.12	N.	N. W.	S. E.	light	light	light	fair	fair	hazy		Mean temperature for the month - - 58°
	20	F.	49	70	58	30.17	30.17	30.04	E.	S. E.	S. E.	light	light	light	cloudy	cloudy	cloudy		Highest ditto, 21 and 22 at noon - - 86
	21	S.	58	86	72	29.92	29.92	29.83	S. W.	S. W.	S. W.	light	light	light	clear	cloudy	cloudy		Lowest ditto. 14 at sun rise - - - - 34
	22	B.	62	86	67	29.83	29.83	29.75	S. W.	S. W.	N. E.	light	light	light	fair	fair	cloudy		Greatest daily variation, 16 and 21 - - 28
☽	23	M.	54	80	68	29.73	29.75	29.75	N. E.	W.	S. E.	light	light	mod.	foggy	fair	fair		Least ditto, 24 and 27 - - - - - - 6
	24	T.	58	55	52	29.77	29.83	29.75	N. E.	N. E.	N. E.	mod.	mod.	mod.	foggy	foggy	rain		Range - - - - - - - - - - - 52
	25	W.	48	63	64	29.70	29.72	29.75	N. E.	N. N. E.	N. E.	light	light	light	rain	cloudy	cloudy	.42	BAROMETER. Inches.
	26	T.	50	68	52	29.92	30.02	30.05	N. E.	N. E.	N. E.	light	light	light	cloudy	cloudy	cloudy		Mean atmospheric pressure for the month - - - - - - - - - - 29.953
	27	F.	44	50	47	30.03	30.10	30.10	N. E.	E. by N.	N. E.	mod.	mod.	mod.	rain	rain	rain		Greatest ditto, on the 1st - - - - 30.330
	28	S.	47	64	60	29.97	29.97	29.86	N. E.	N. E.	N. E.	mod.	mod.	mod.	rain	cloudy	cloudy	.44	Least ditto, on the 13th - - - - 29.486
	29	B.	58	62	63	29.97	29.92	29.92	N. E.	N. E.	E. N. E.	light	light	light	rain	rain	rain		Greatest daily variations, on the 13th .450
☽	30	M.	44	52	47	29.98	30.06	30.08	N. E.	N. E.	N. E.	fresh	fresh	fresh	rain	cloudy	cloudy	.88	Least ditto, on the 17th - - - - - .100
	31	T.	44	60	53	30.08	30.08	30.00	N. E.	N. E.	N. E.	fresh	fresh	fresh	cloudy	cloudy	cloudy		Range - - - - - - - - - - - .850